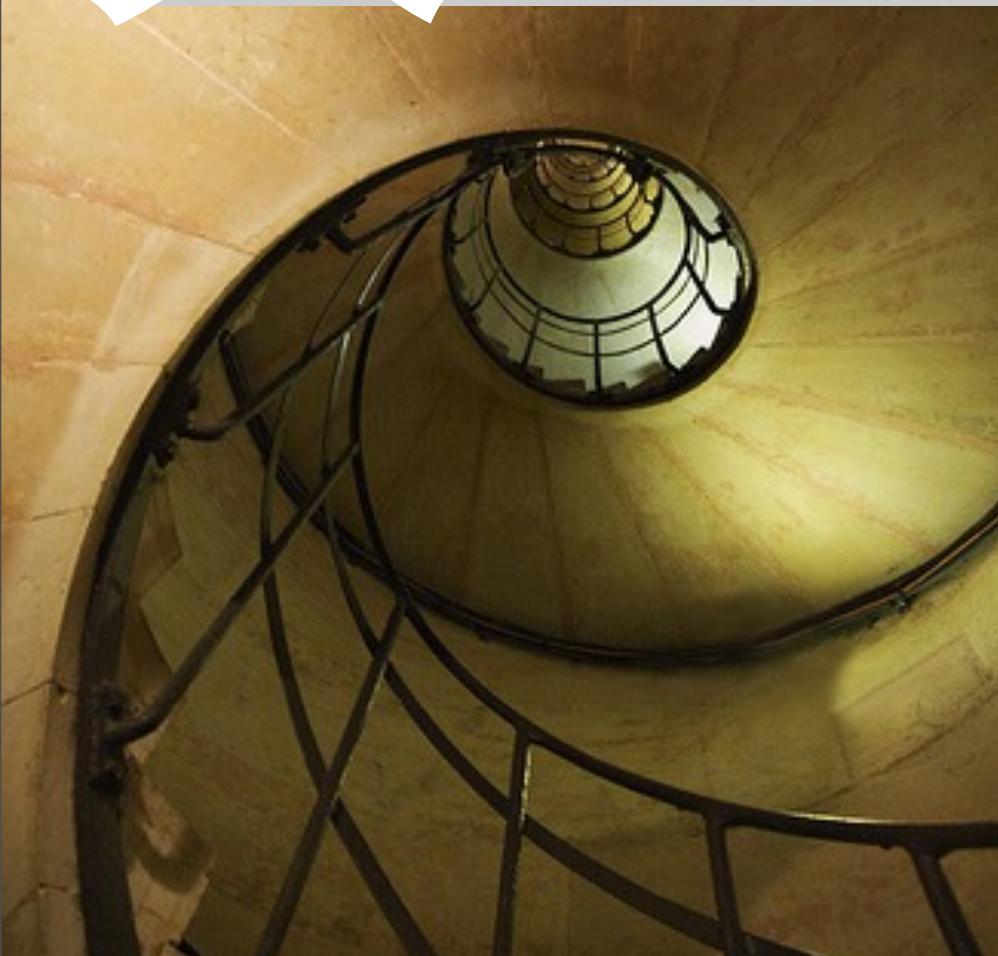


大题小作

规模SOA系统治理中的架构支持



程立

支付宝（中国）网络技术有限公司

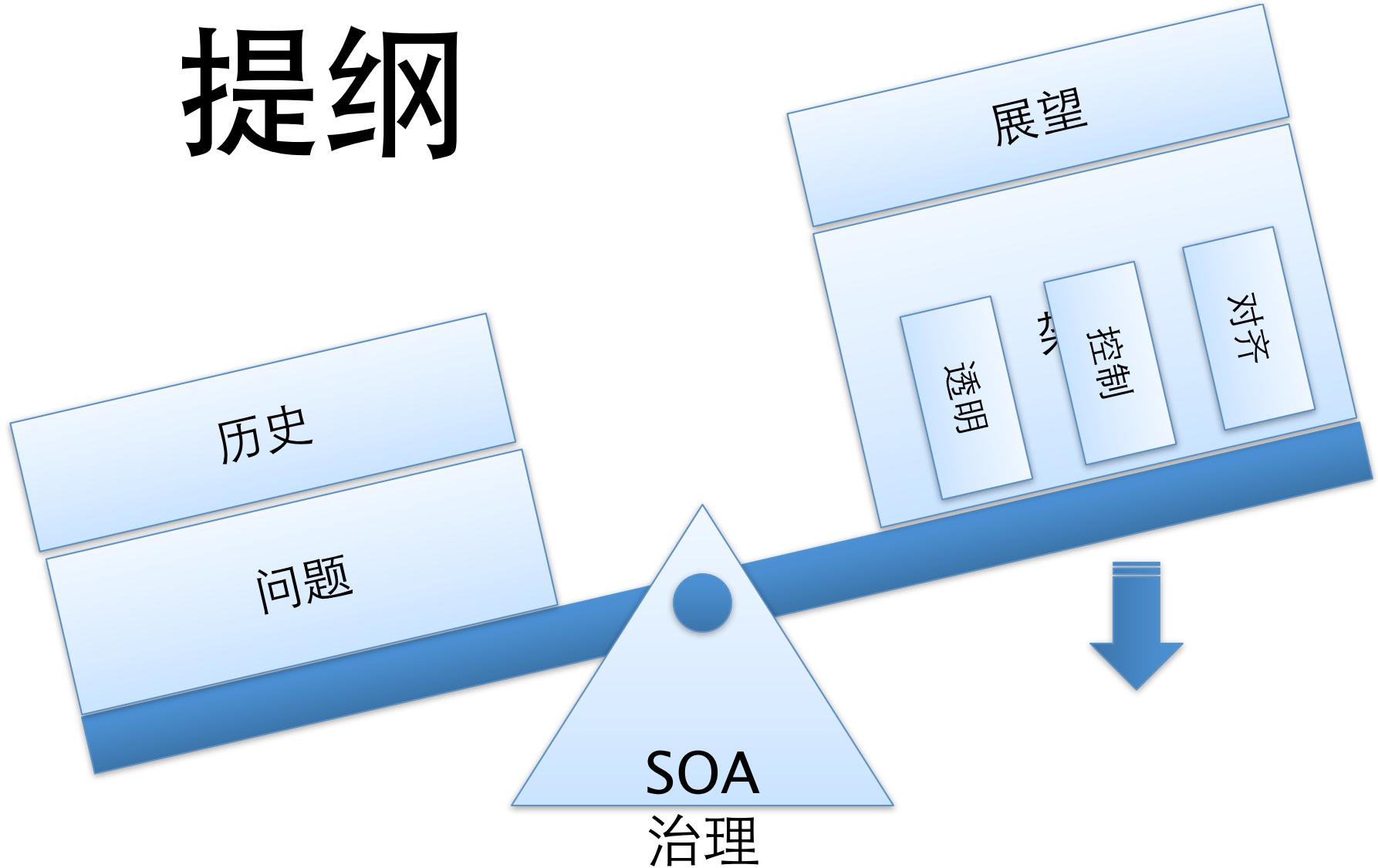
QCon

北京，2009年4月8日

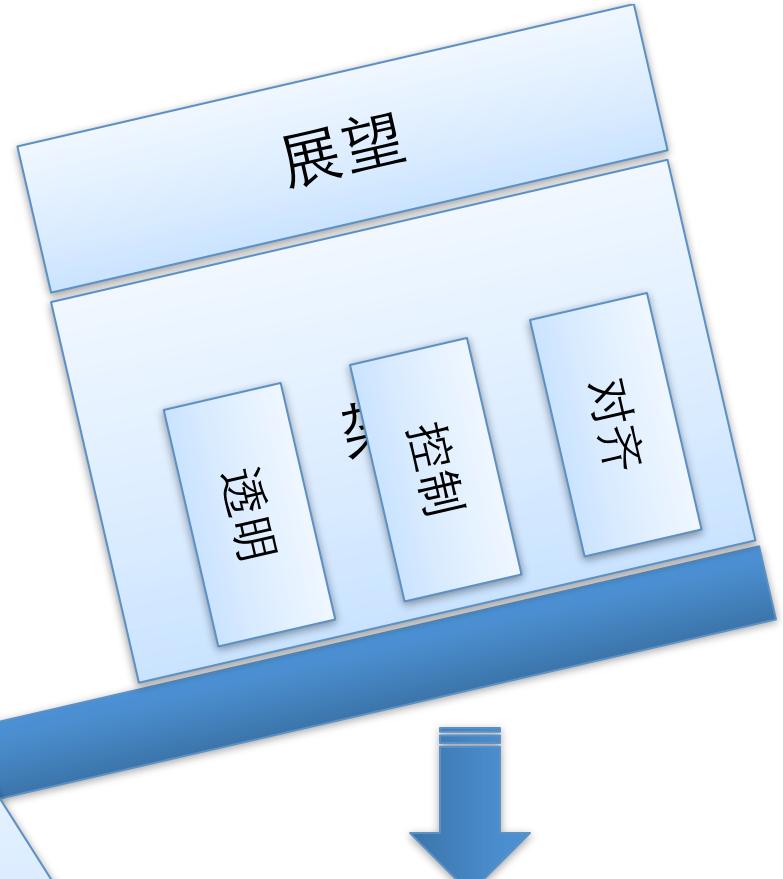
Through 2010, a lack of working SOA governance arrangements will be the most common reason for SOA failure.

“Application and SOA Governance, The Who, What and Why”
- Matt Hottle, Gartner, June 2008

提纲



历史





上帝说：要有光，就有了光



上帝说：要有光，就有了光



认识SOA，学习SOA
达成走SOA路线的共识



上帝说：诸水之间要有空气
将水分上下



上帝说：诸水之间要有空气
将水分上下



识别主要挑战(平衡快与稳)
找到SOA的切入点(核心分离)





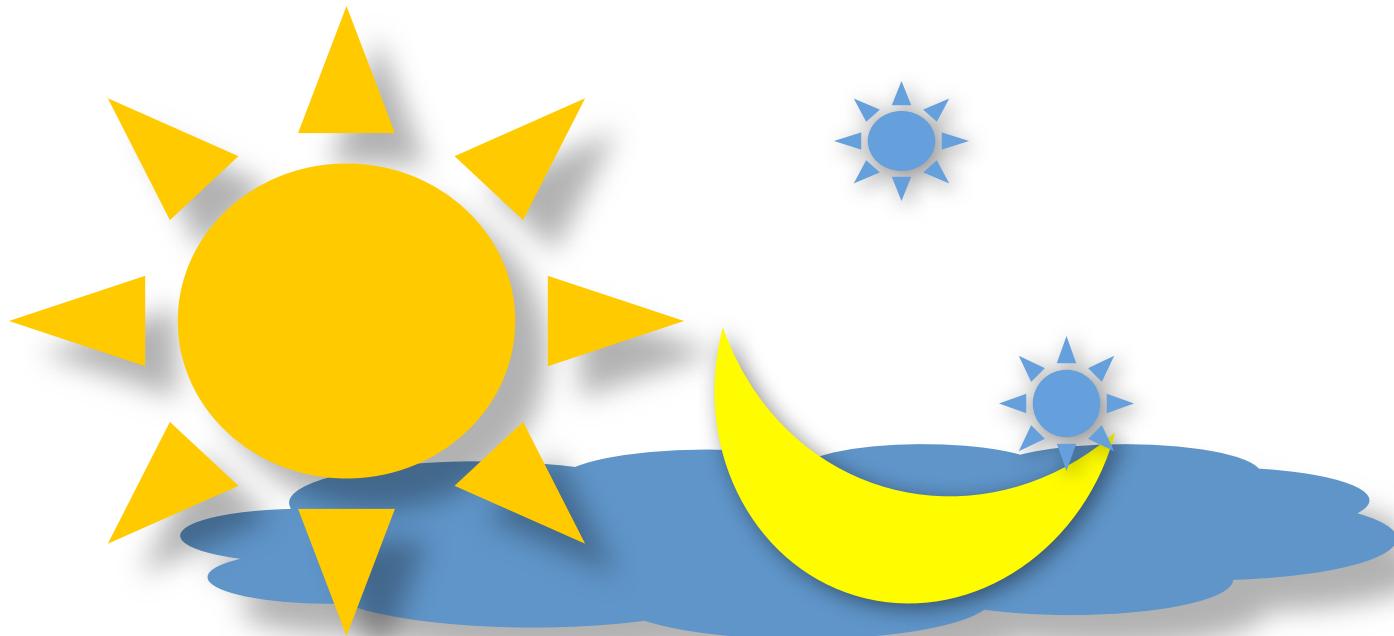
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地要发生青草，和结种子的果蔬，
并结果子的树木



上帝说：水要聚在一处，使旱地露出来
地要发生青草，和结种子的果蔬，
并结果子的树木



第一组服务落地(交易服务)
并结出果实



上帝...造两个大光，
大的管昼， 小的管夜。
又造众星。



上帝...造两个大光，
大的管昼，小的管夜。
又造众星。



历史

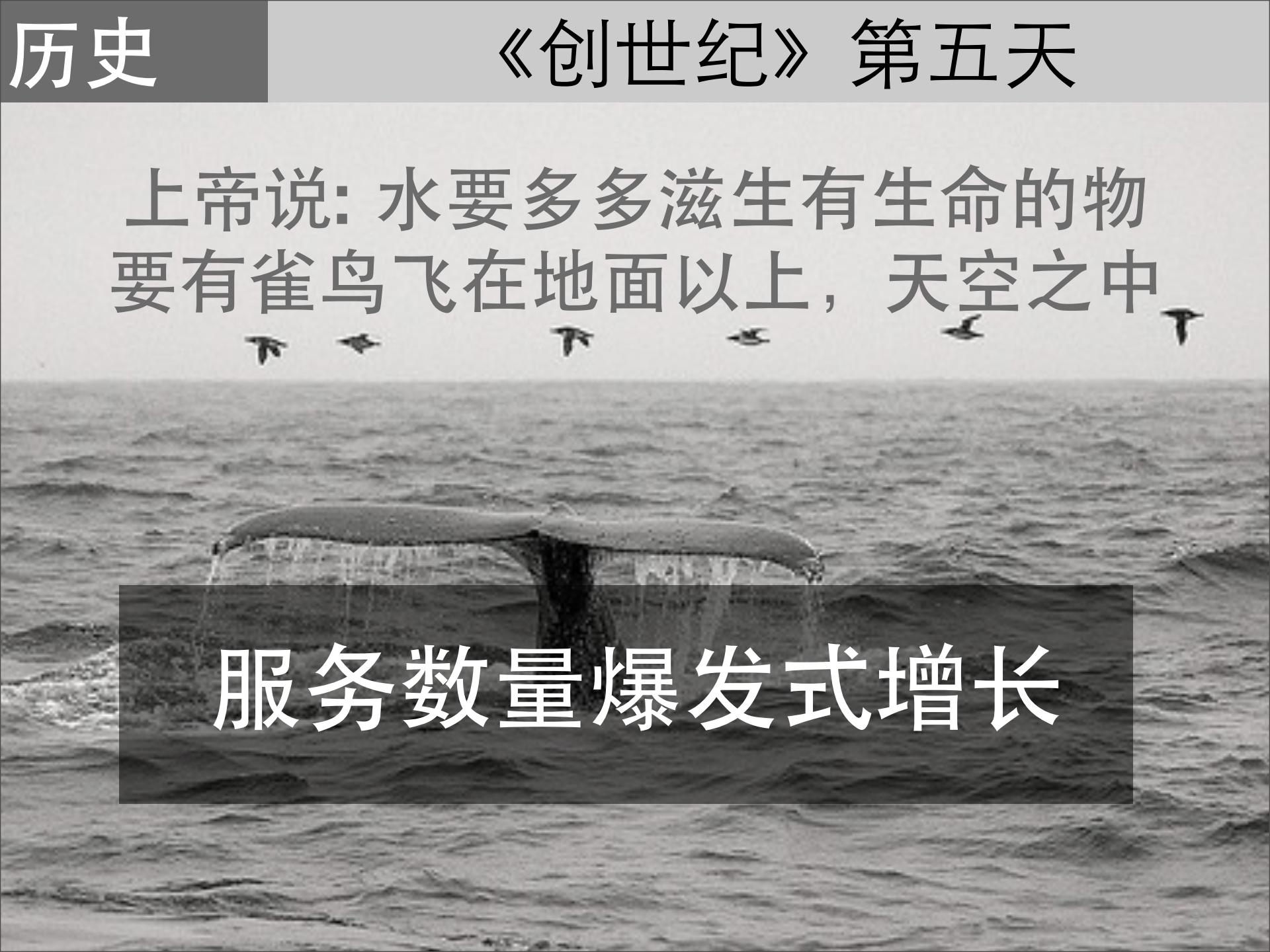
《创世纪》第五天



上帝说：水要多多滋生有生命的物
要有雀鸟飞在地面以上，天空之中



上帝说：水要多多滋生有生命的物
要有雀鸟飞在地面以上，天空之中

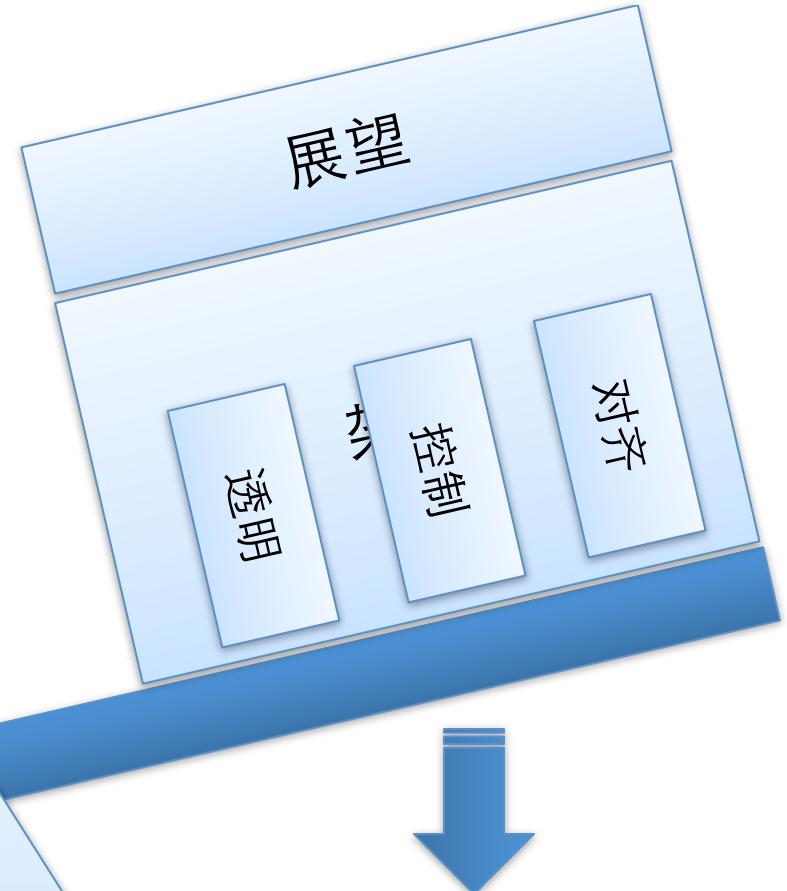


服务数量爆发式增长





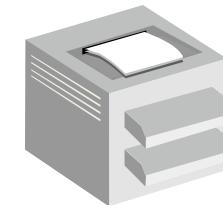
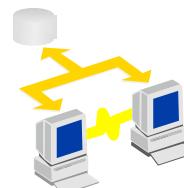
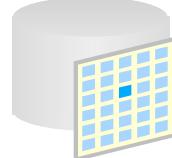
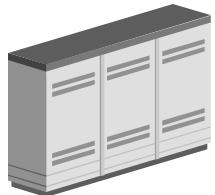
问题





SOA separates functions into distinct units, or services, which developers make accessible over a network in order that users can combine and reuse them in the production of applications.

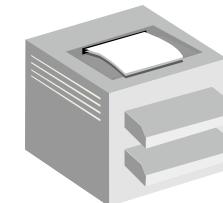
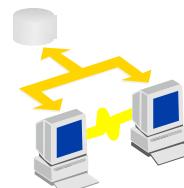
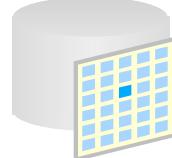
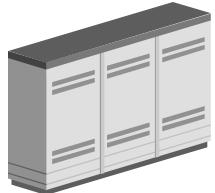
— Wikipedia





SOA separates functions into distinct units, or services, which developers make accessible over a network in order that users can combine and reuse them in the production of applications.

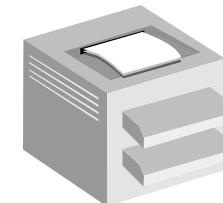
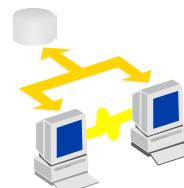
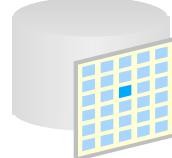
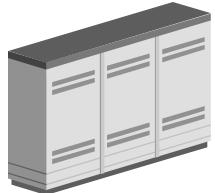
— Wikipedia





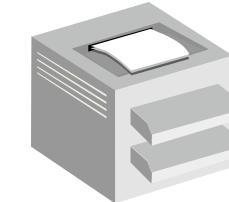
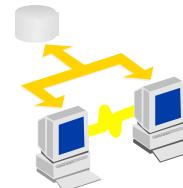
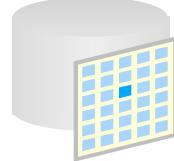
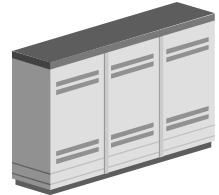
SOA separates functions into distinct units, or services, which developers make accessible over a network in order that users can combine and reuse them in the production of applications.

— Wikipedia



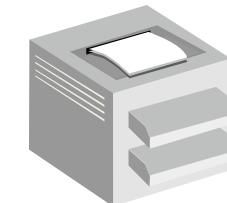
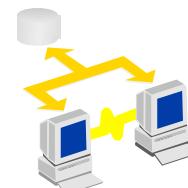
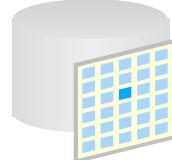
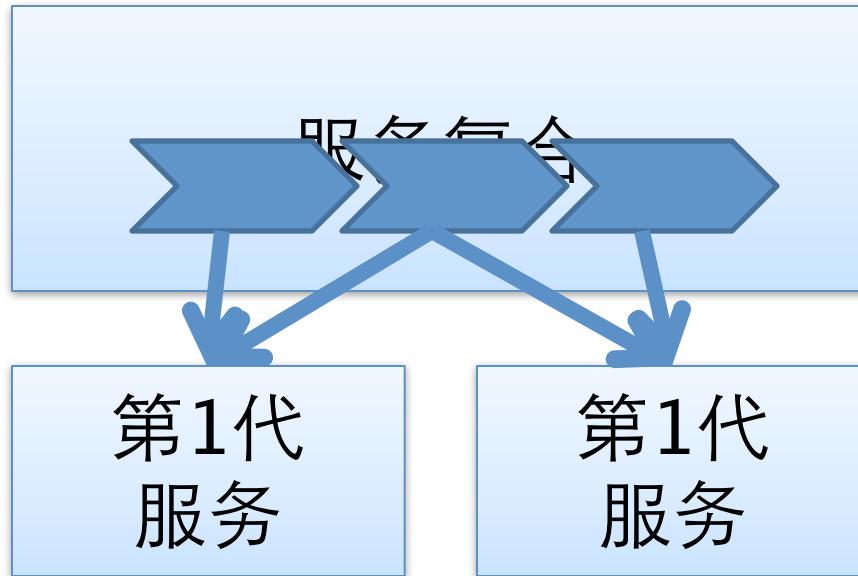
问题

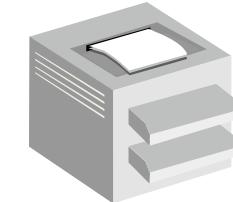
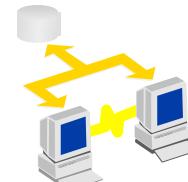
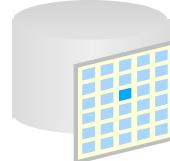
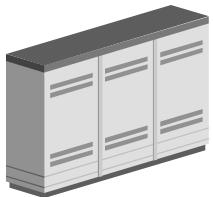
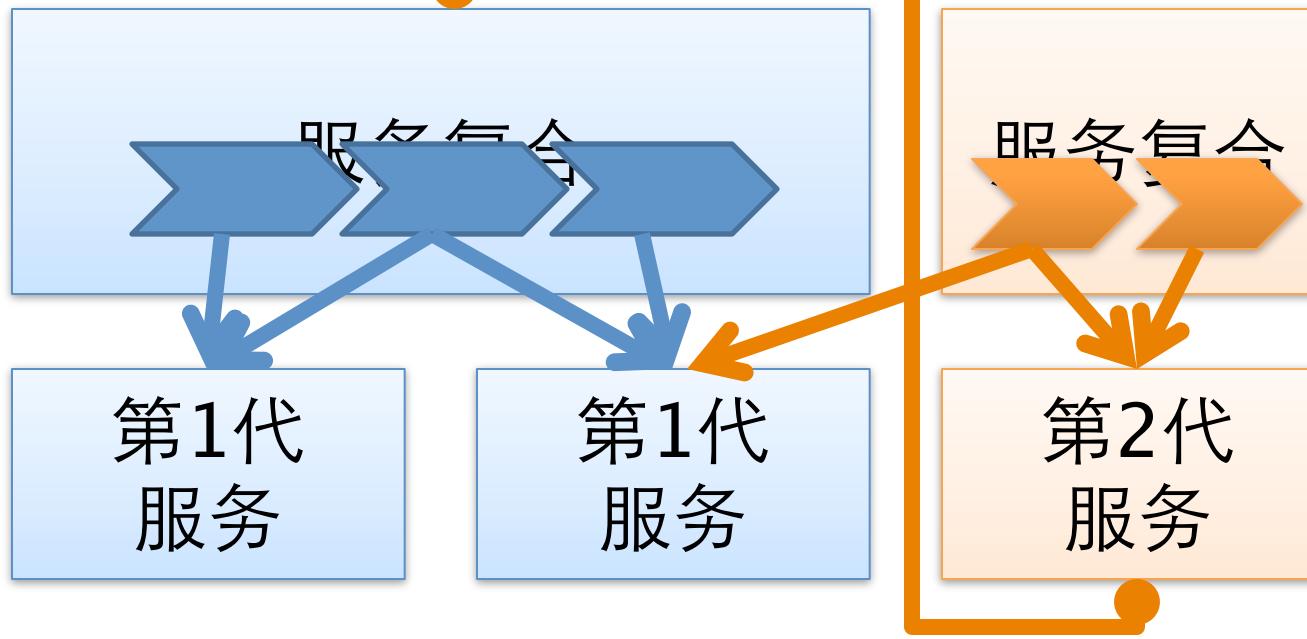
服务建设的递归



问题

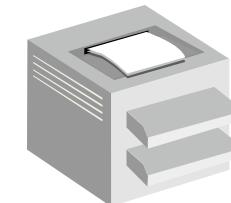
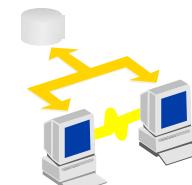
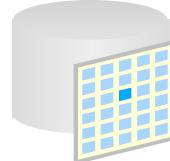
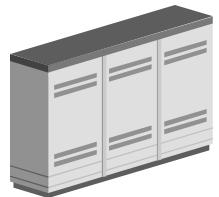
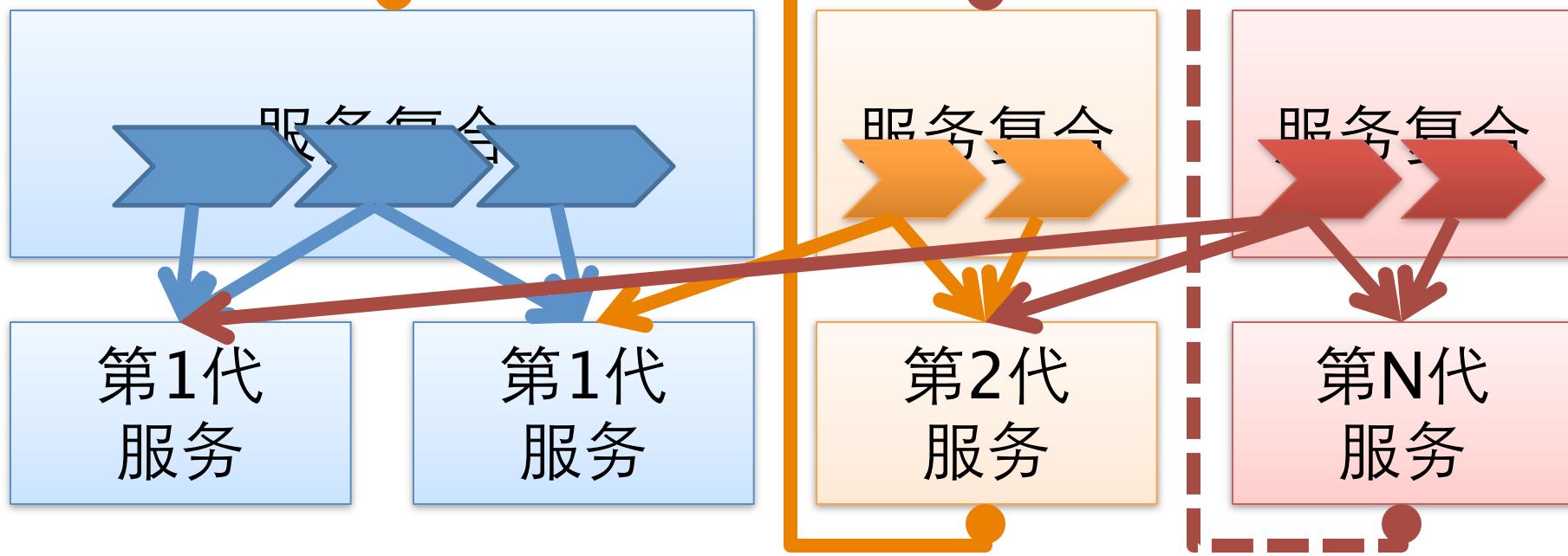
服务建设的递归





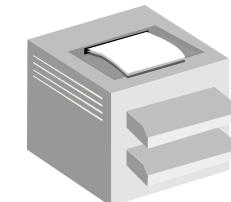
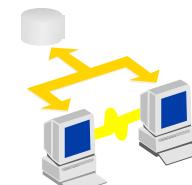
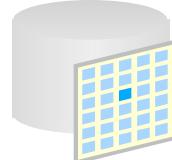
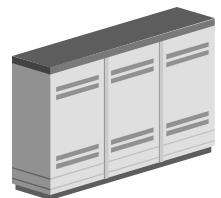
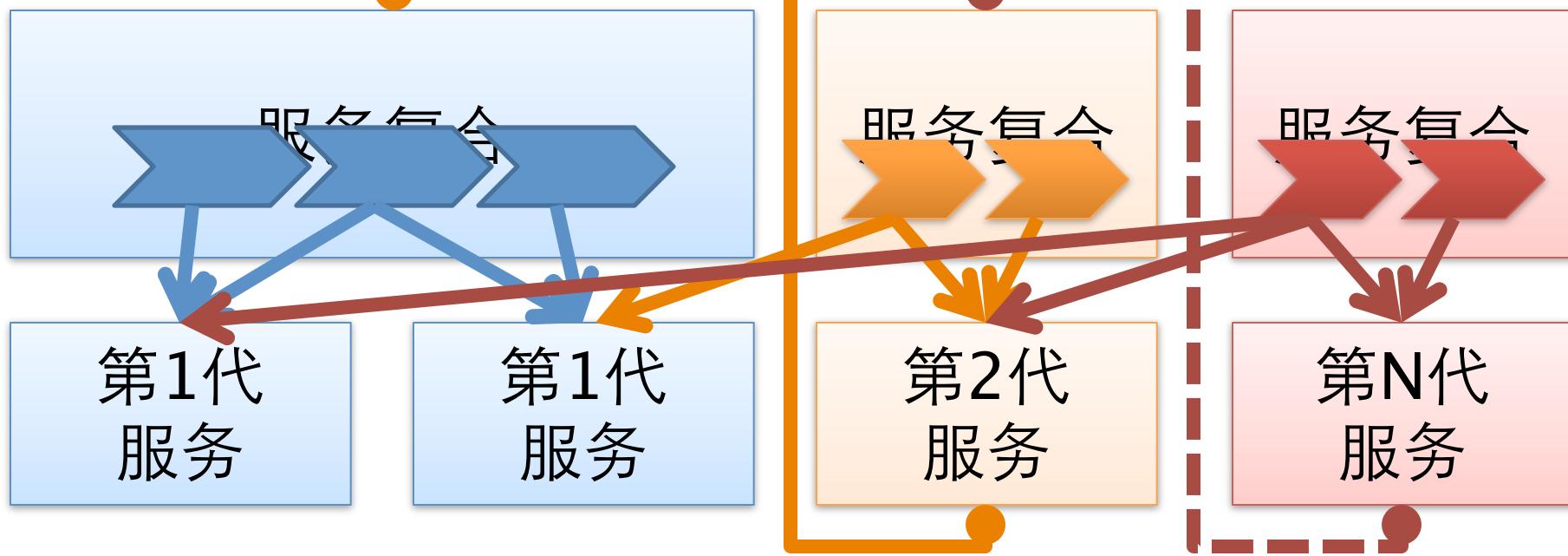
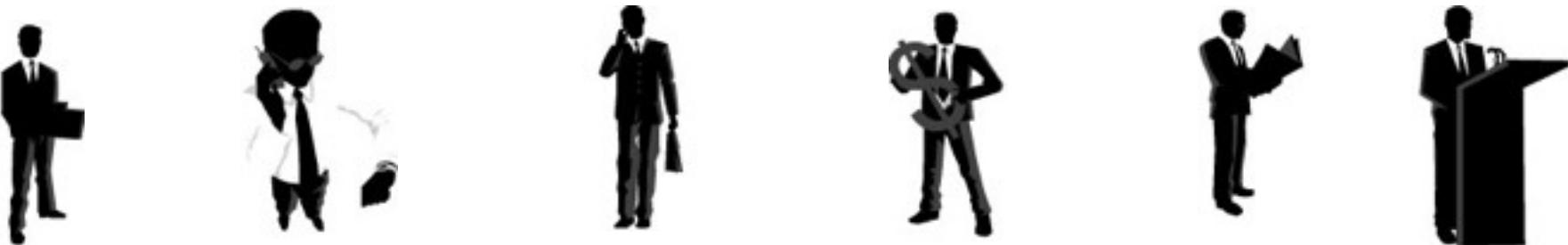
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服务建设的递归



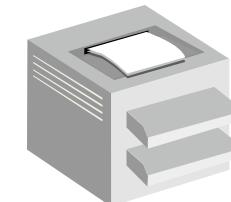
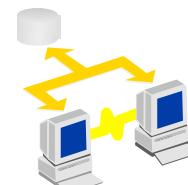
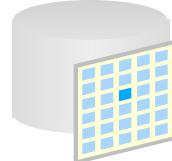
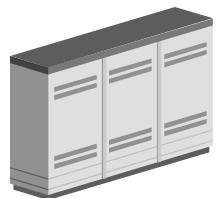
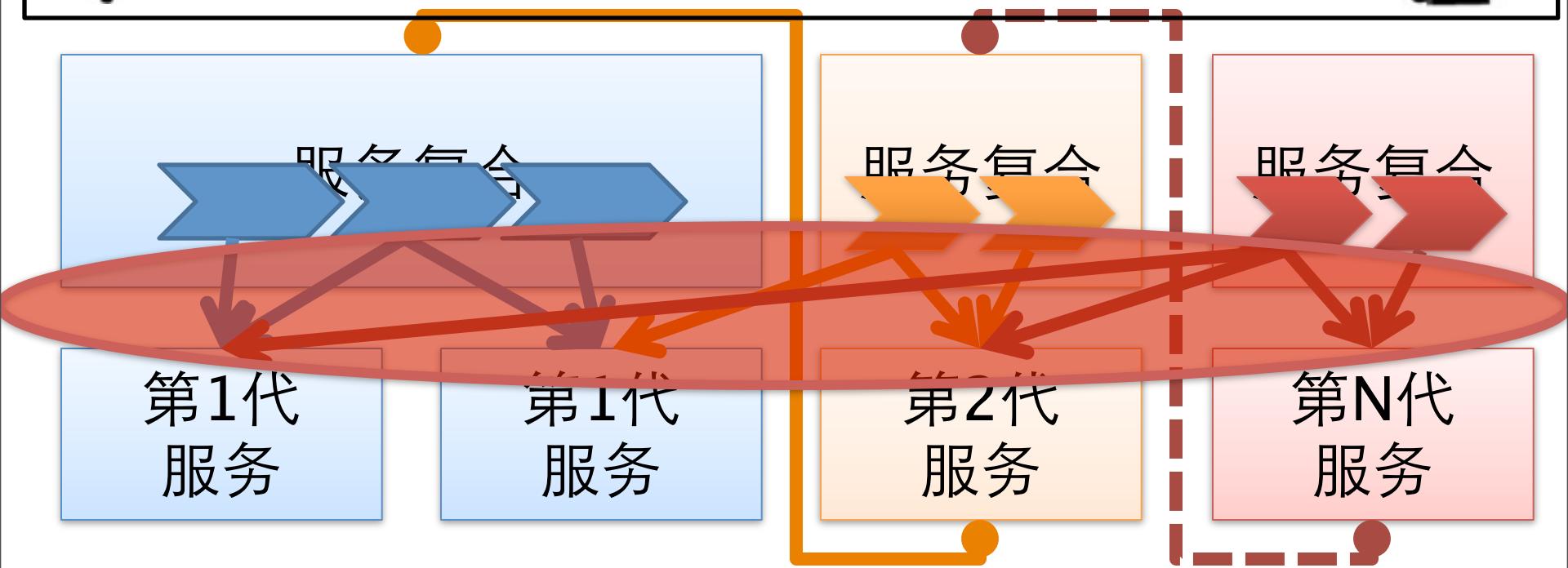
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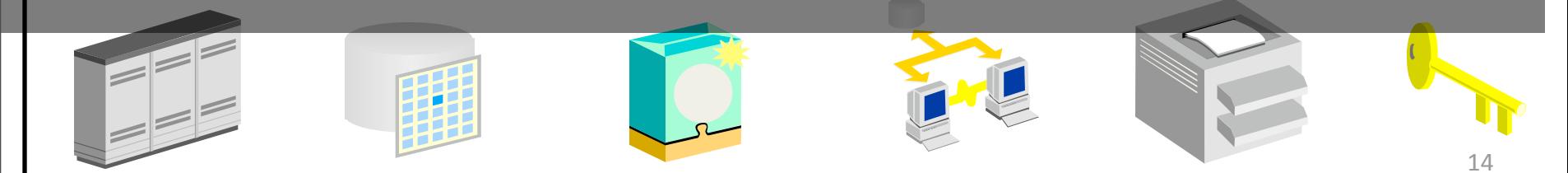
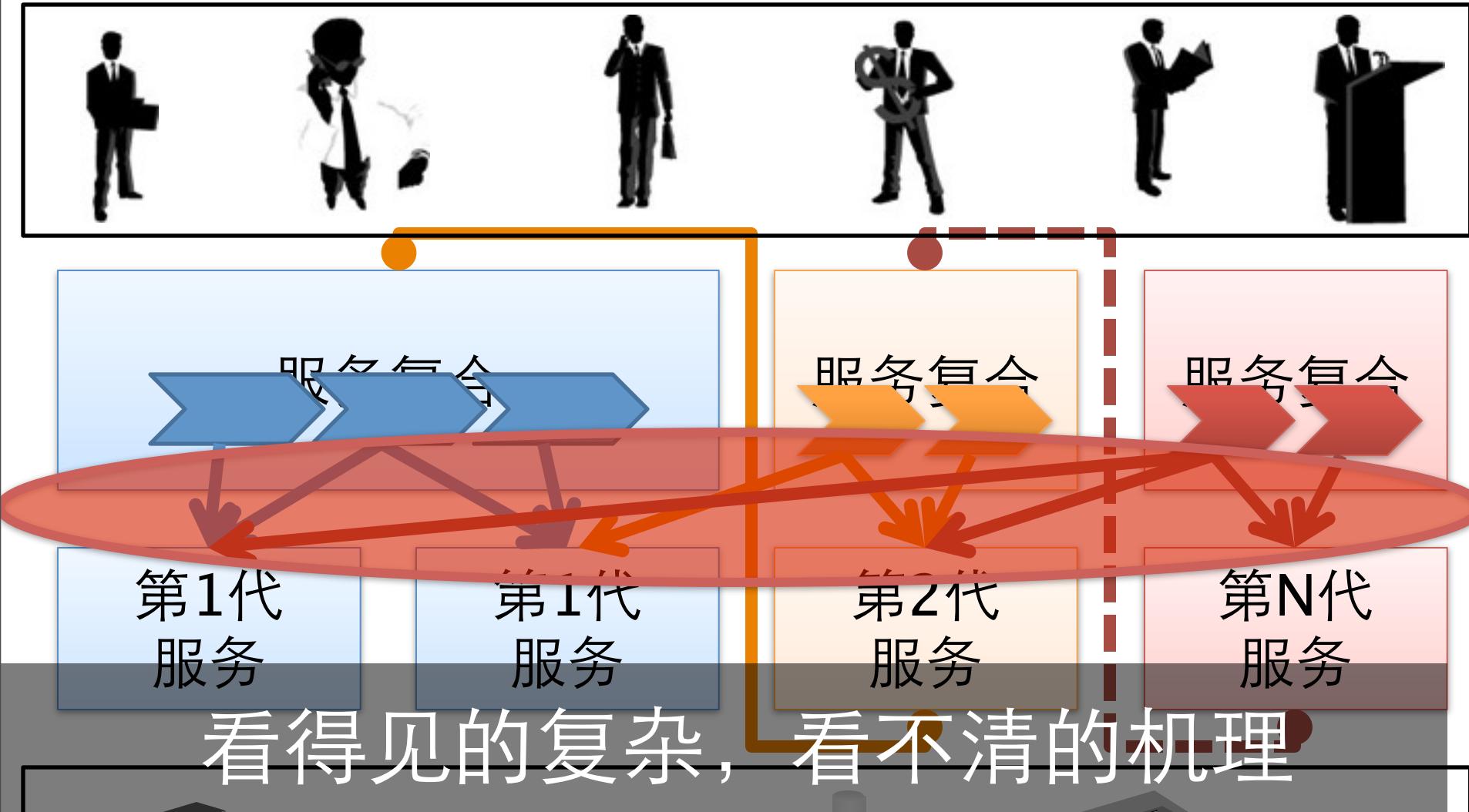
SOA 副作用



问题

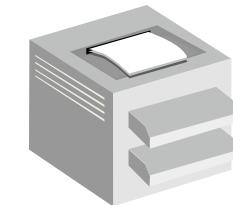
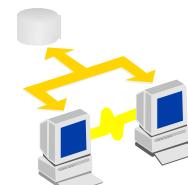
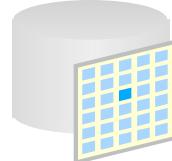
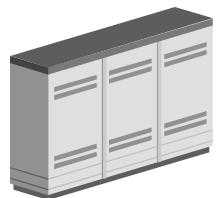
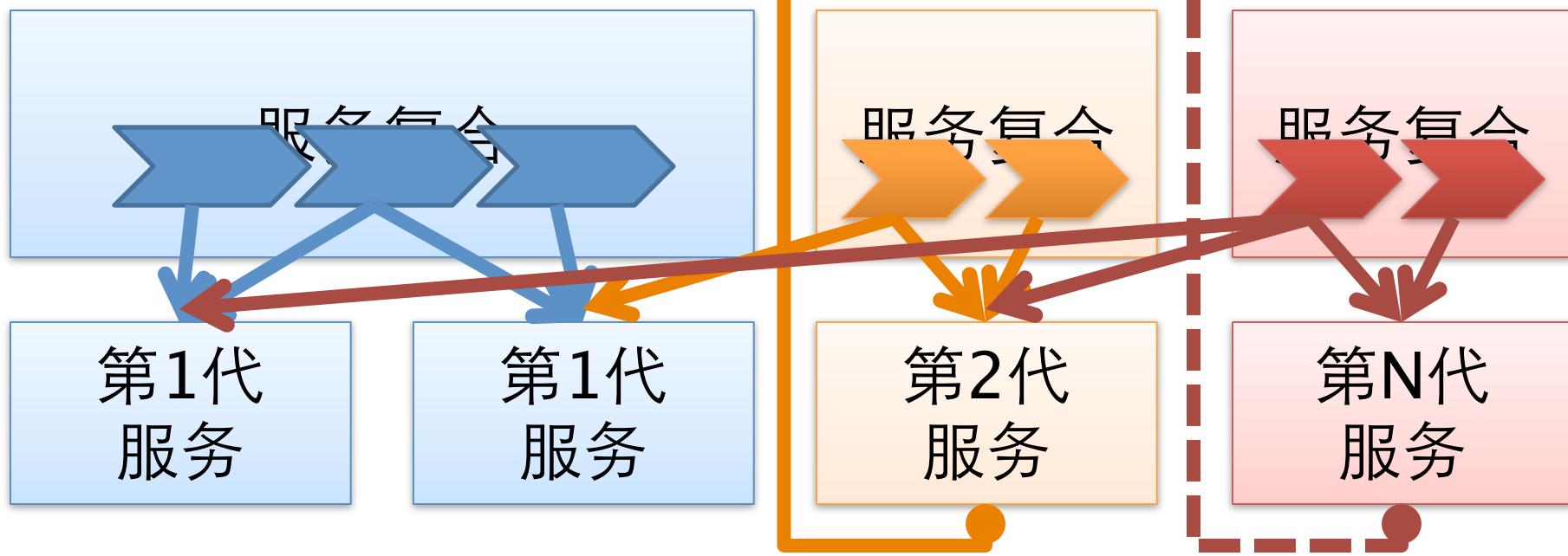
SOA 副作用





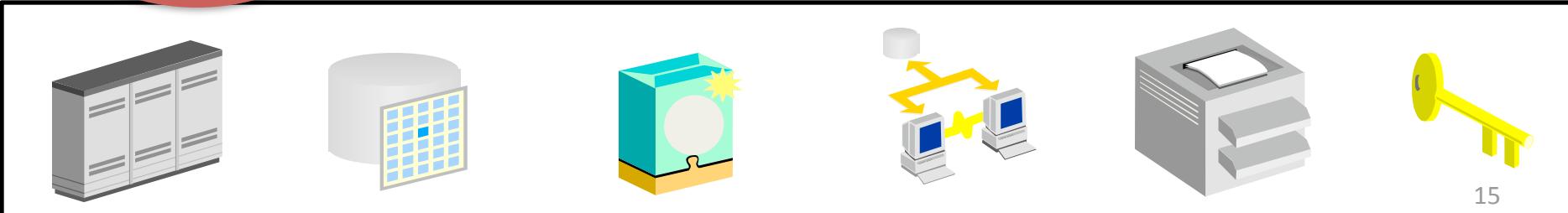
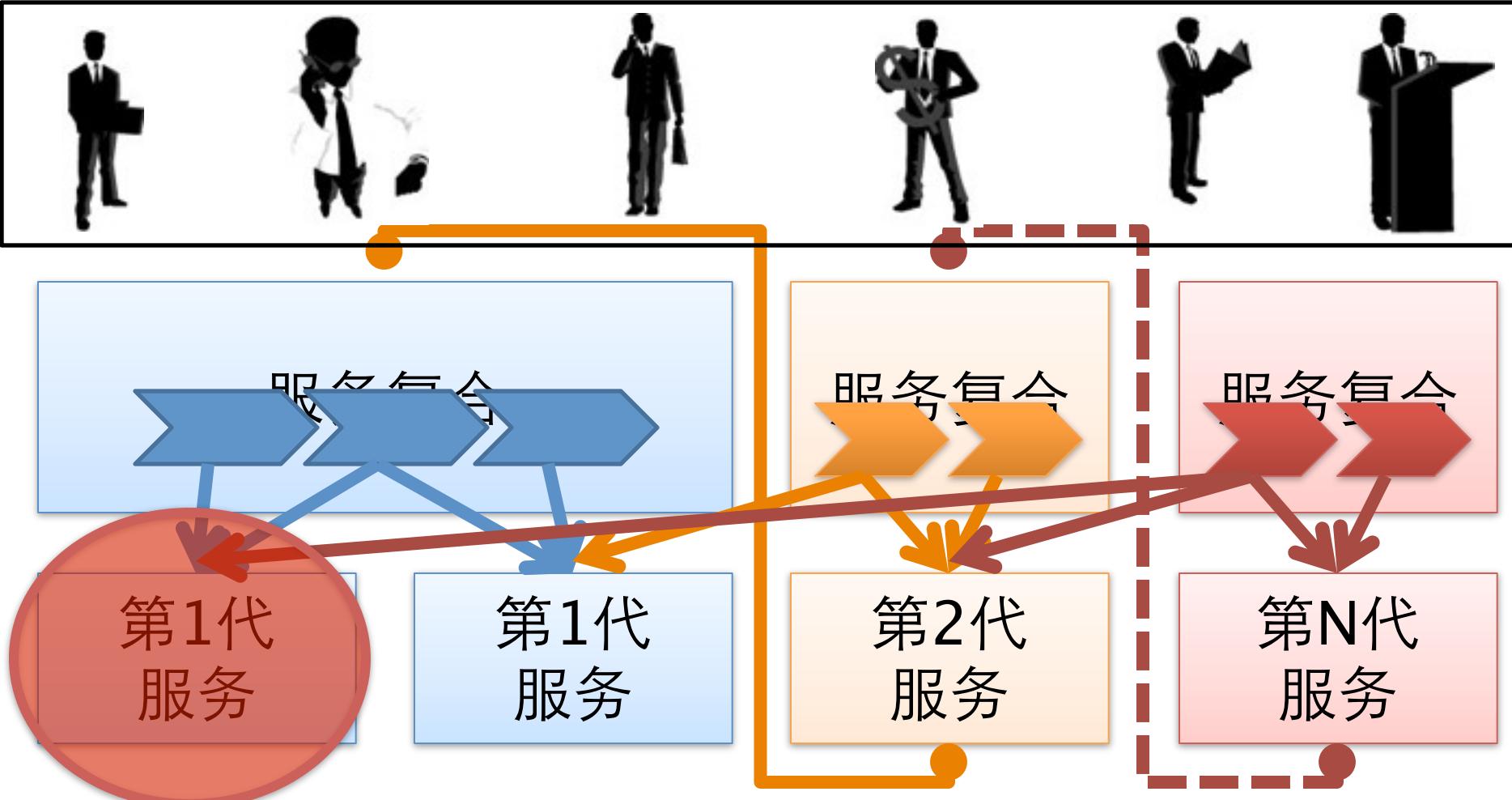
问题

SOA 副作用



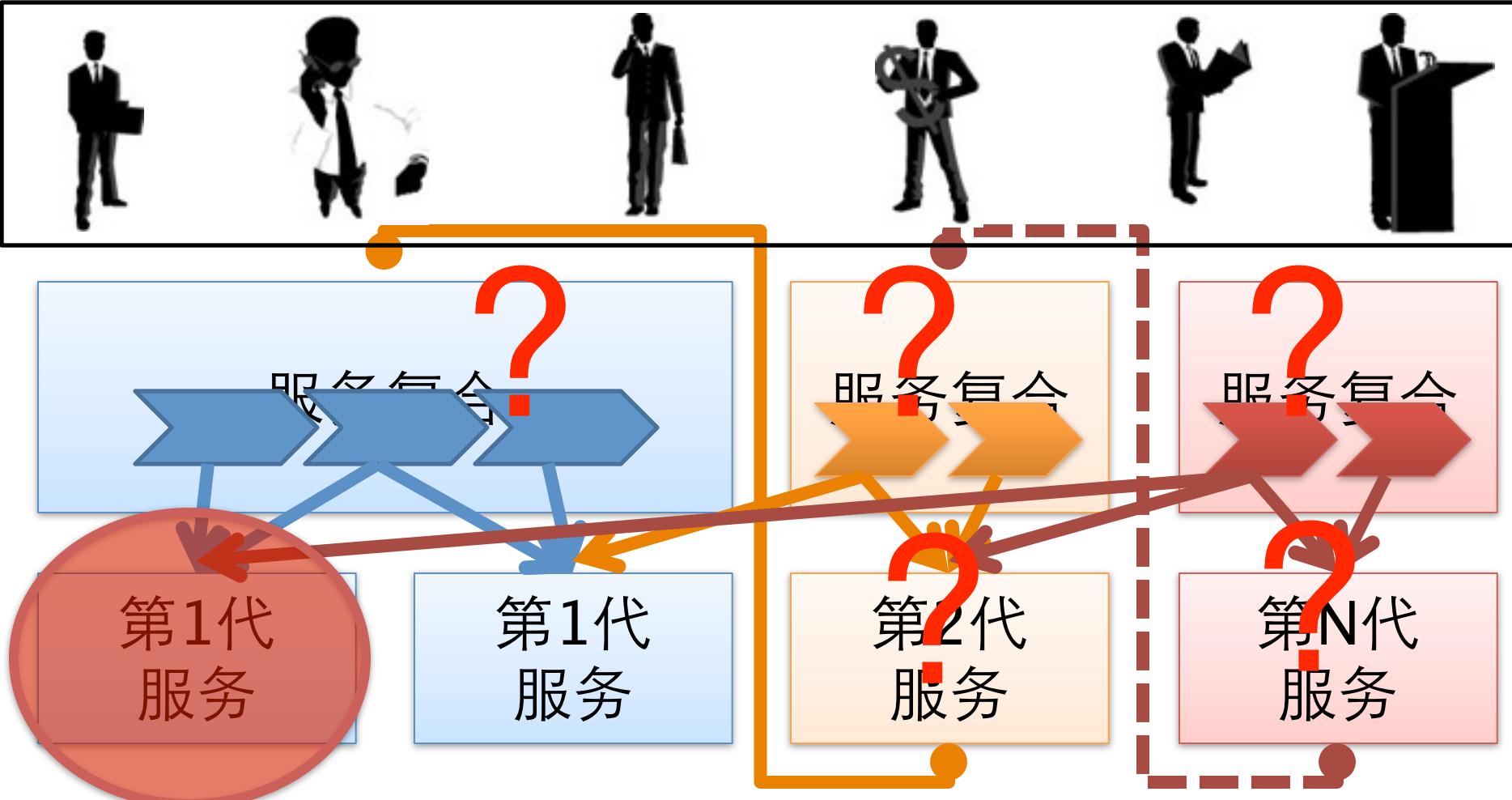
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SOA 副作用



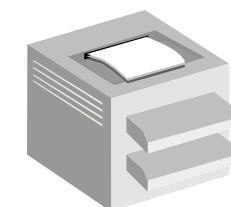
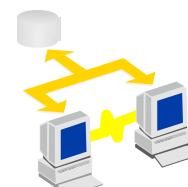
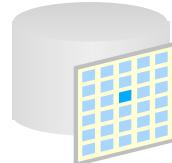
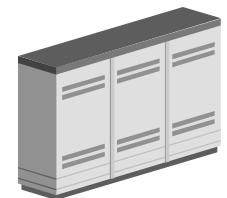
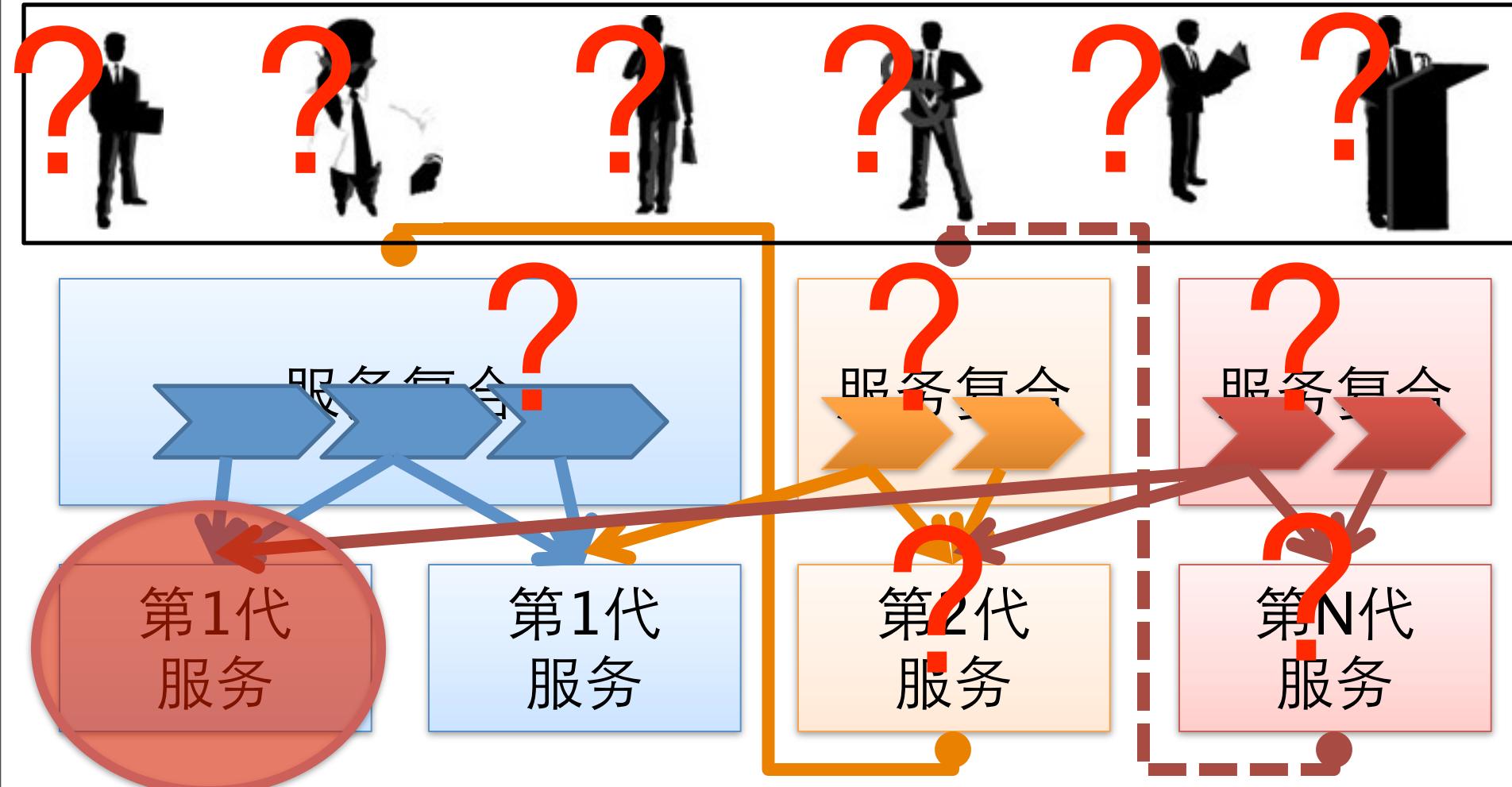
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SOA 副作用



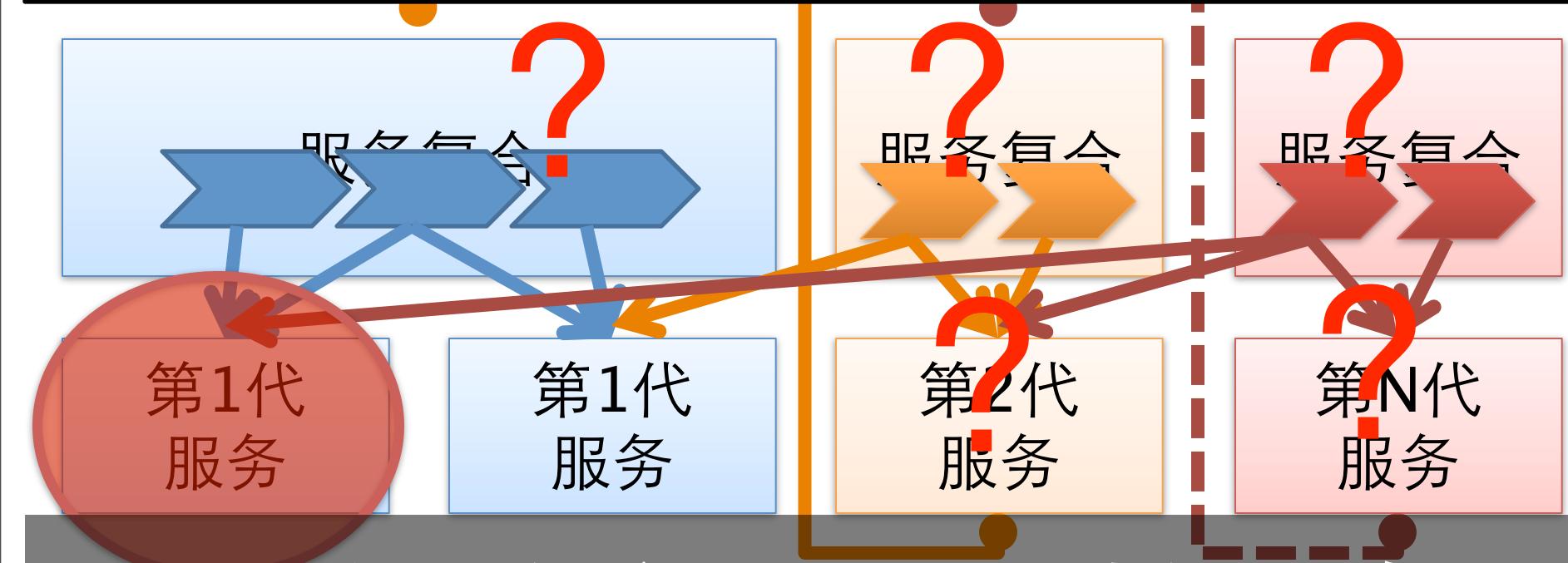
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SOA 副作用

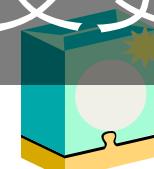
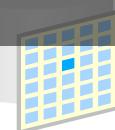
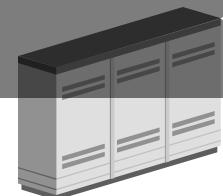


问题

SOA 副作用

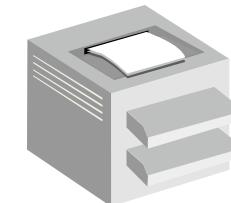
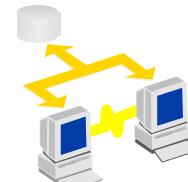
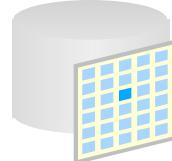
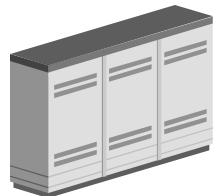
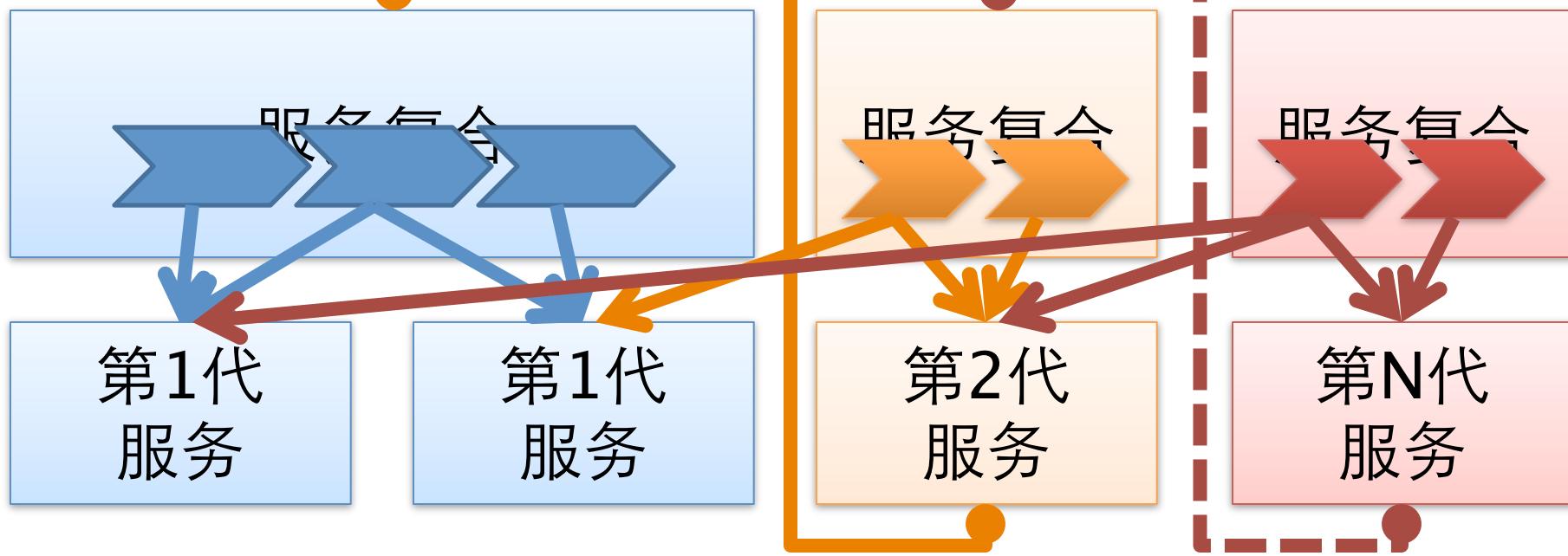


看得见的变更，看不清的影响



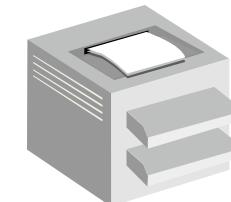
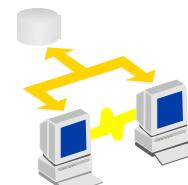
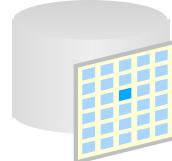
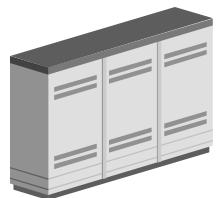
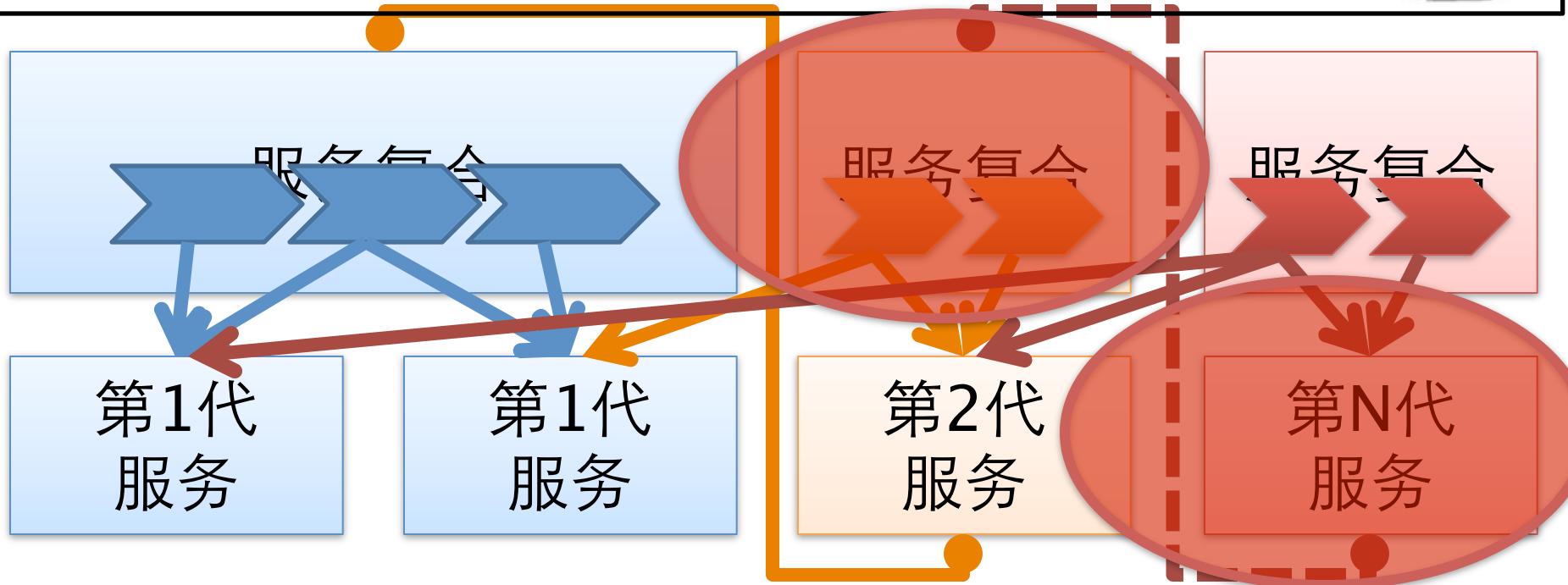
问题

SOA 副作用



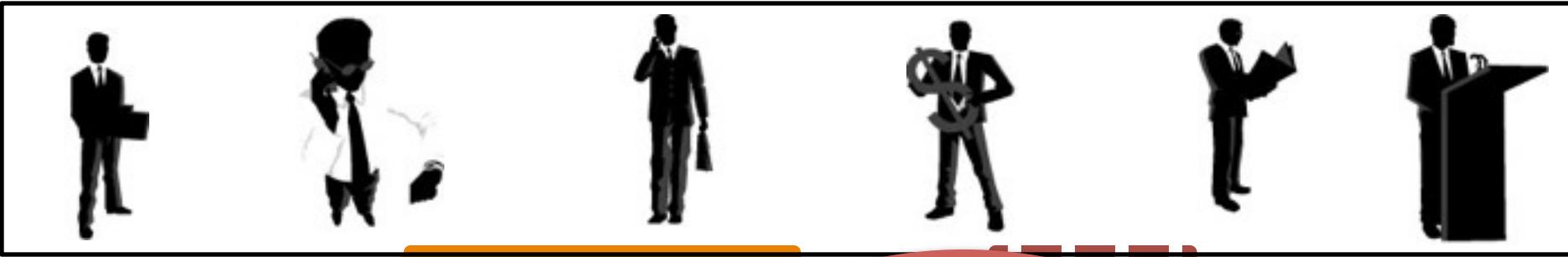
问题

SOA 副作用



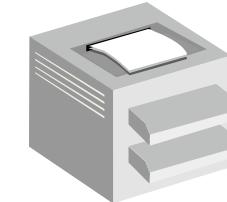
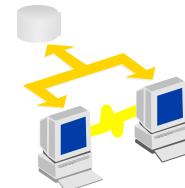
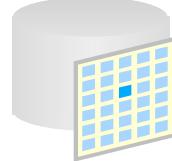
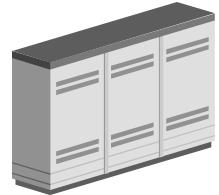
问题

SOA 副作用



问题

SOA 盲区

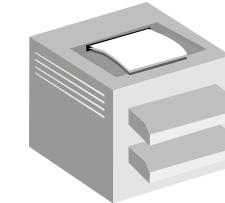
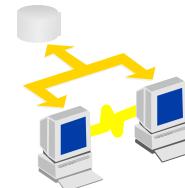
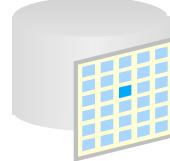
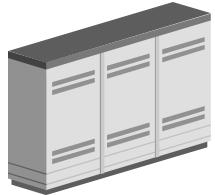


问题

SOA 盲区

100分

战略



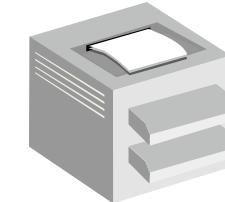
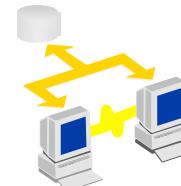
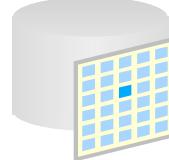
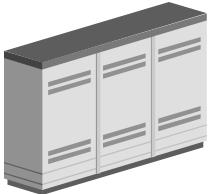
问题

SOA 盲区

100分

战略

商业模式
* 90%

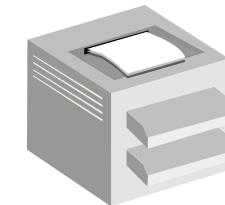
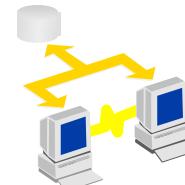
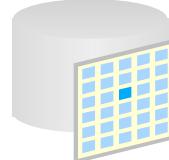
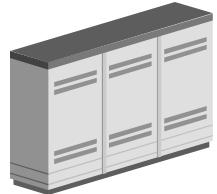
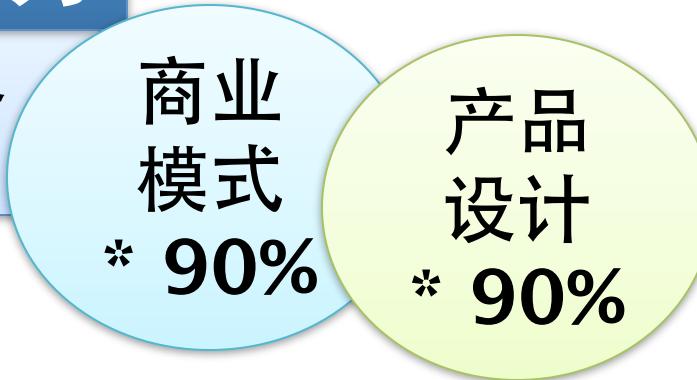


问题

SOA 盲区

100分

战略

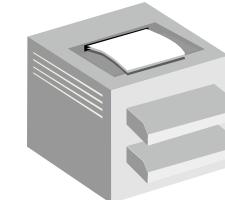
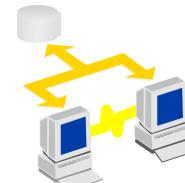
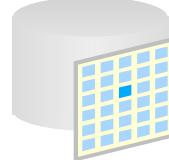
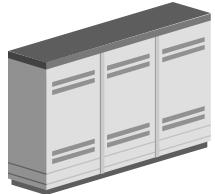
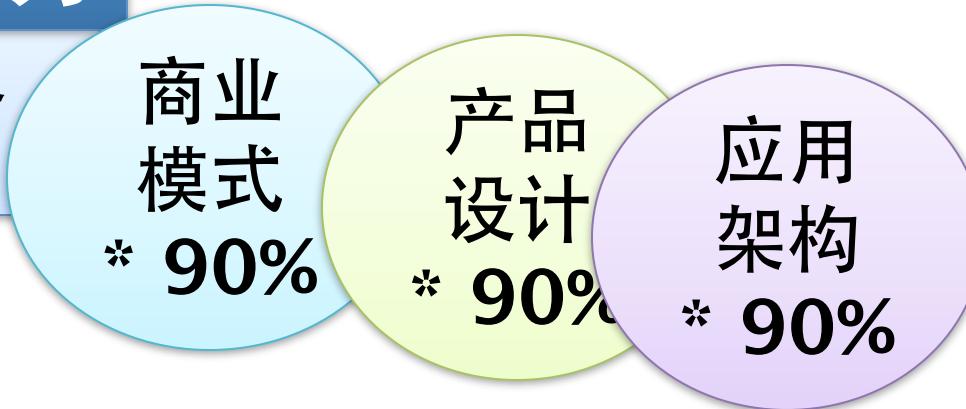


问题

SOA 盲区

100分

战略

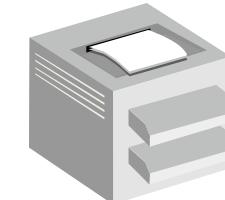
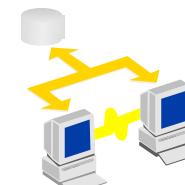
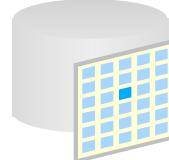
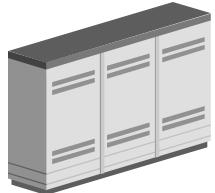
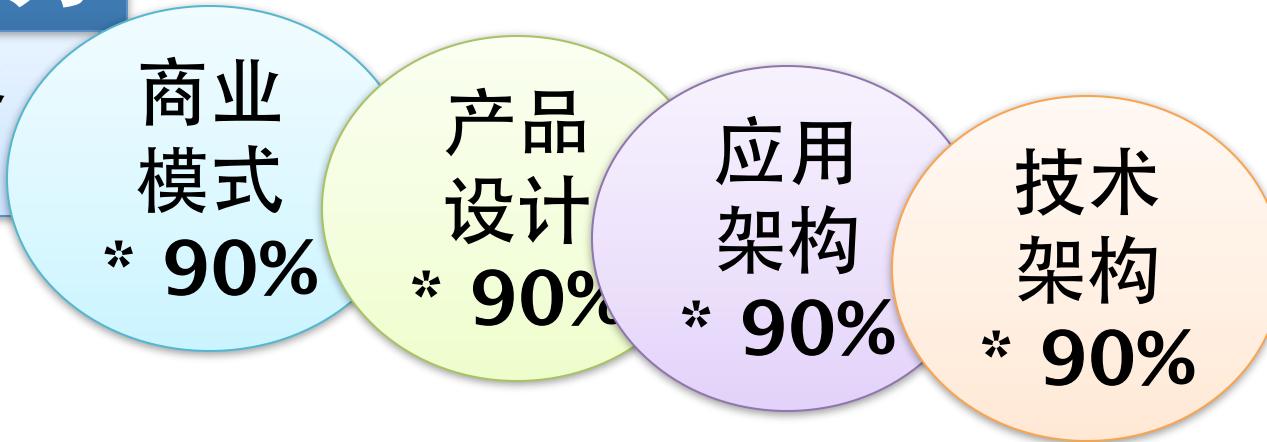


问题

SOA 盲区

100分

战略



问题

SOA 盲区

100分

战略

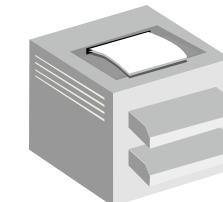
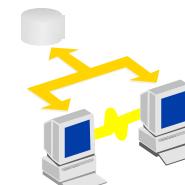
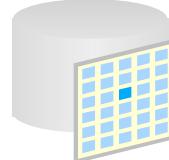
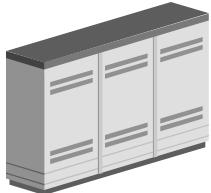
商业模式
* 90%

产品设计
* 90%

应用架构
* 90%

技术架构
* 90%

实现
* 90%



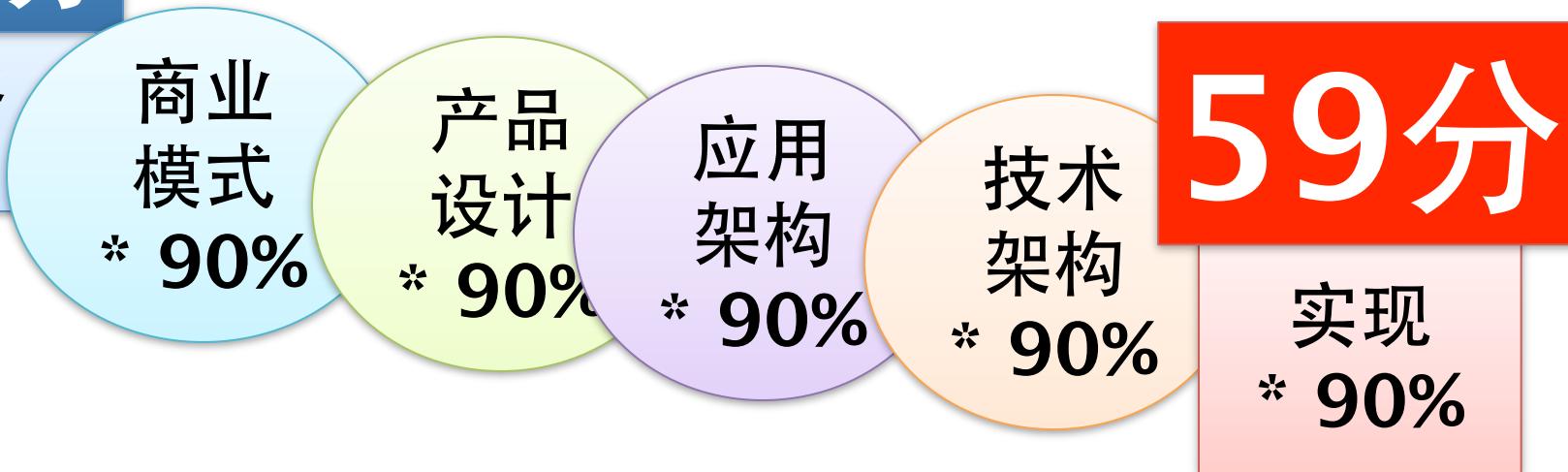
问题

SOA 盲区



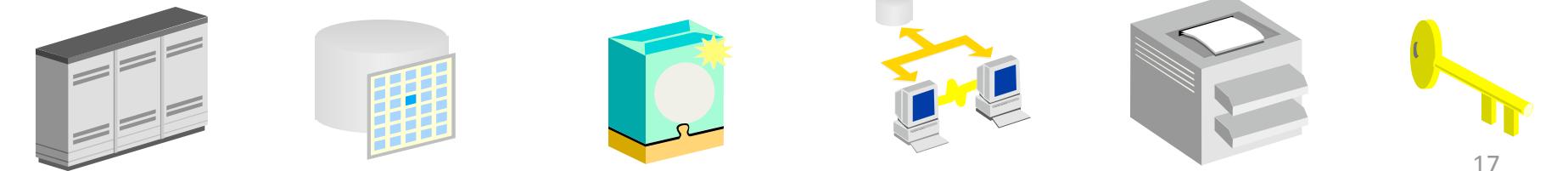
100分

战略



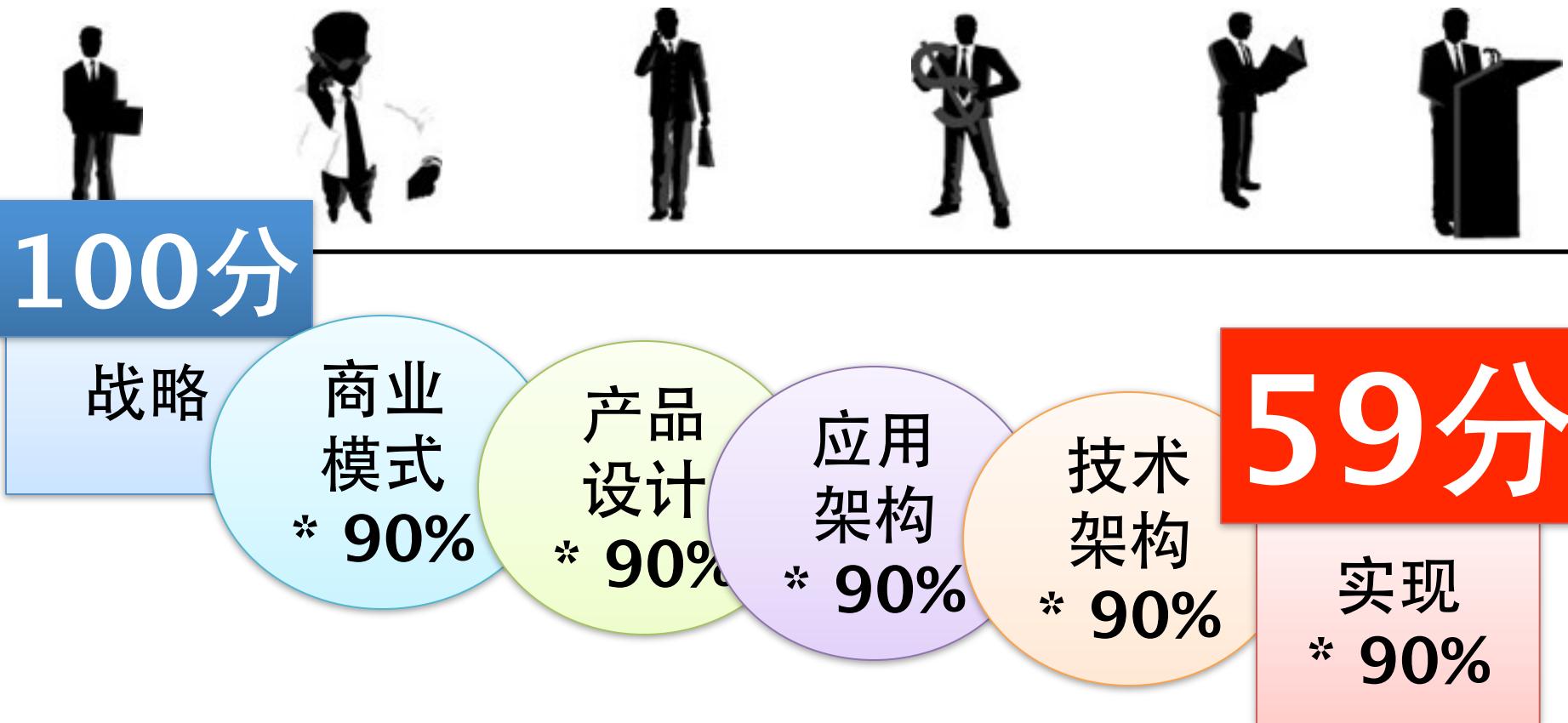
59分

实现
* 90%

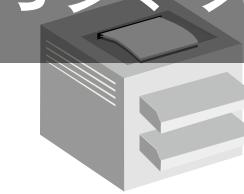
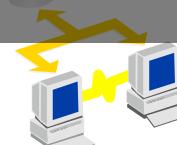
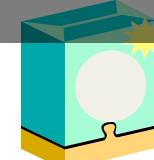
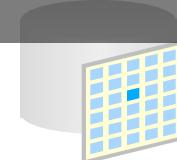
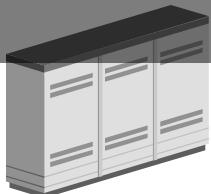


问题

SOA 盲区



靠谱的战略，不靠谱的实现



问题

SOA 难



技术服务

数据服务

遗留系统服务

合作伙伴服务

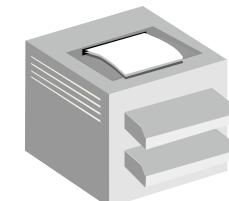
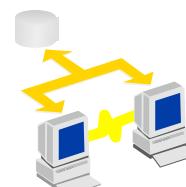
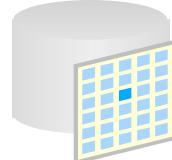
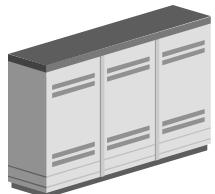
领域服务

业务服务

流程服务

门户服务

开放服务



问题

SOA 雷区



You only need one service to destroy
your business.

技术
服务

数据
服务

遗留
系统
服务

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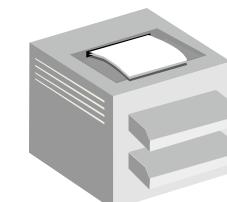
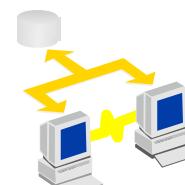
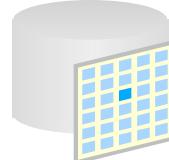
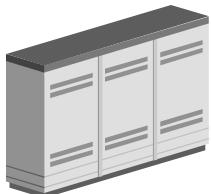
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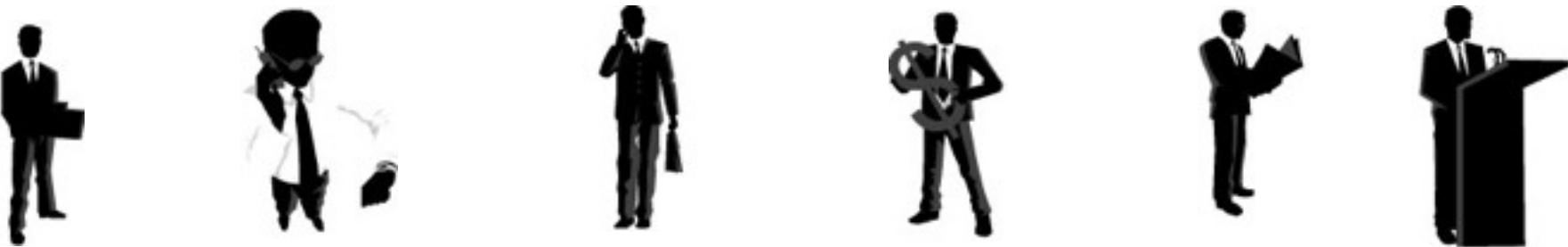
开
放
服
务

— Gartner



问题

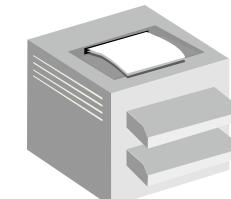
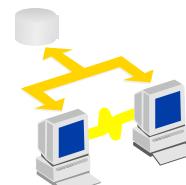
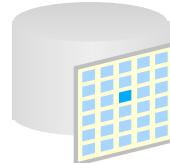
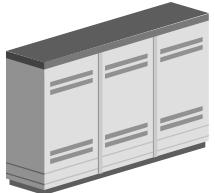
SOA 雷区



You only need one service to destroy
your business.

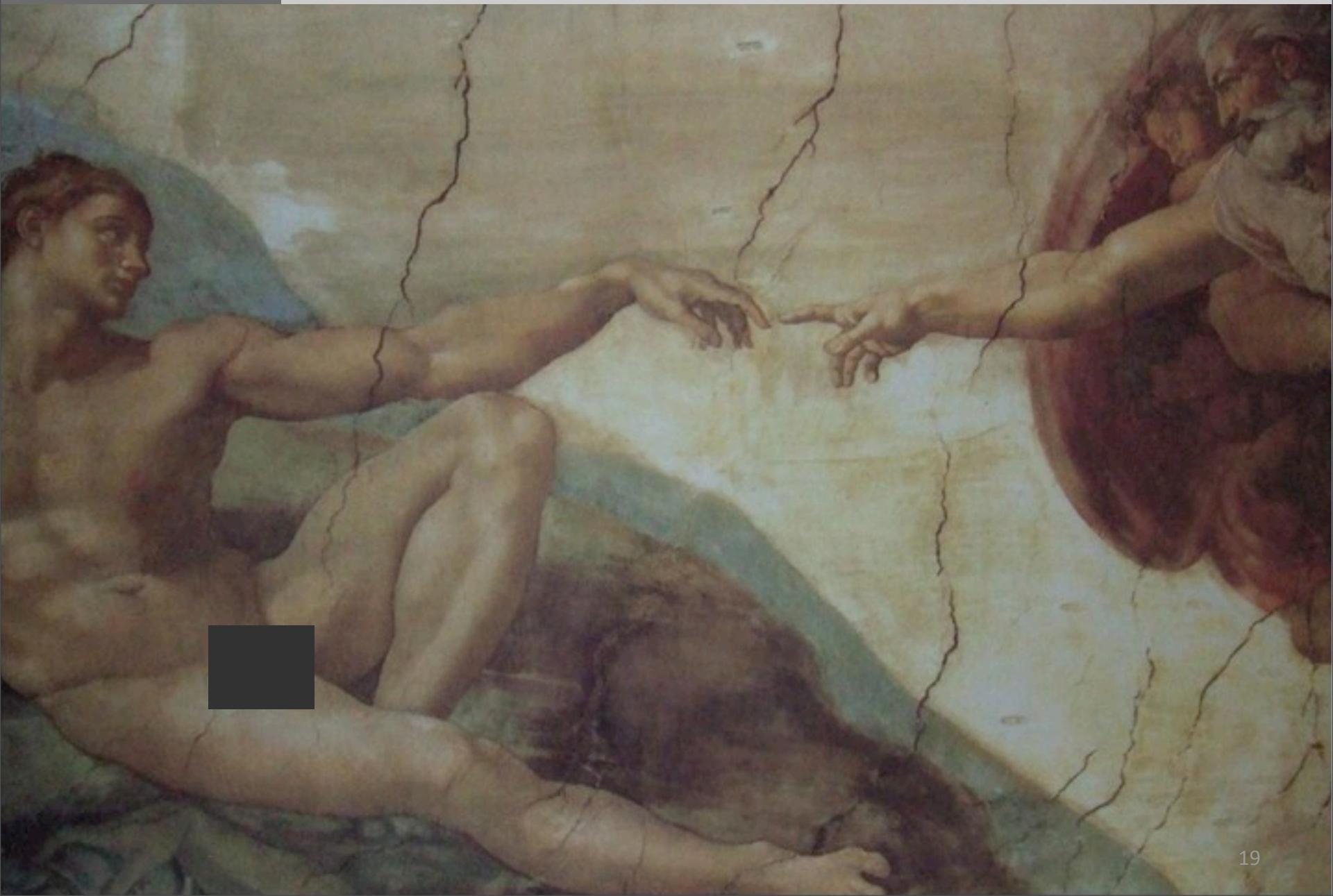
或服务

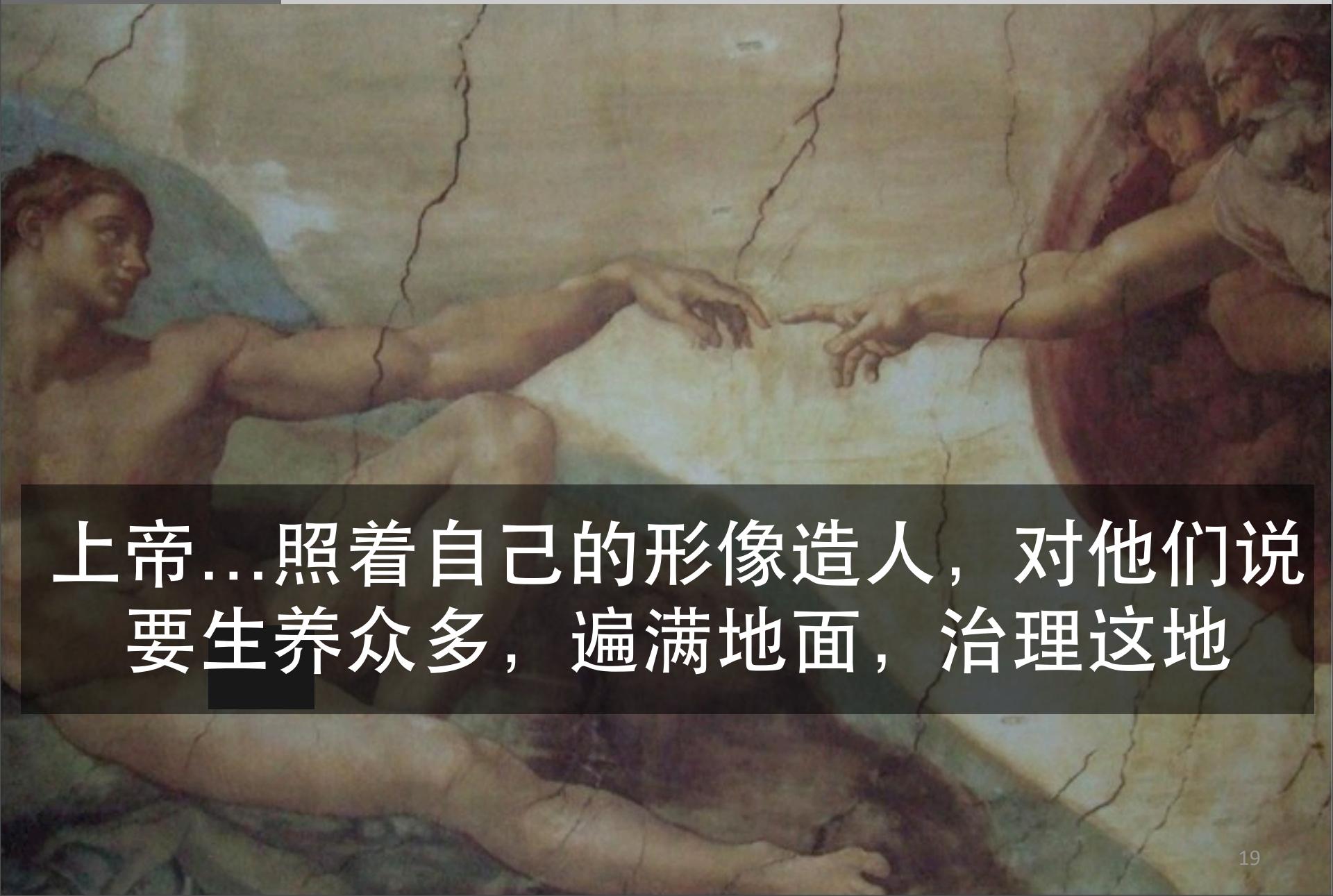
— Gartner



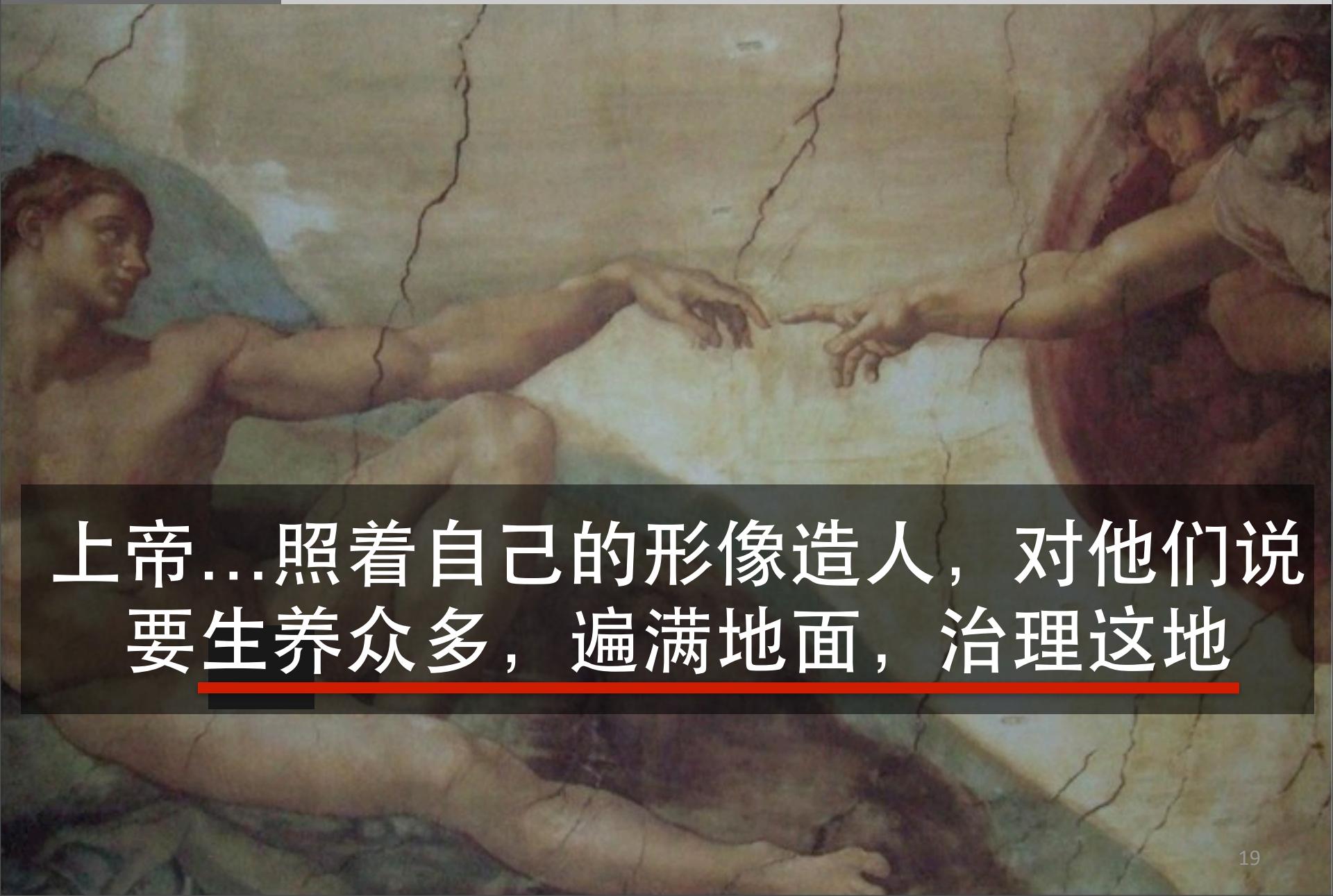
问题

《创世纪》第六天



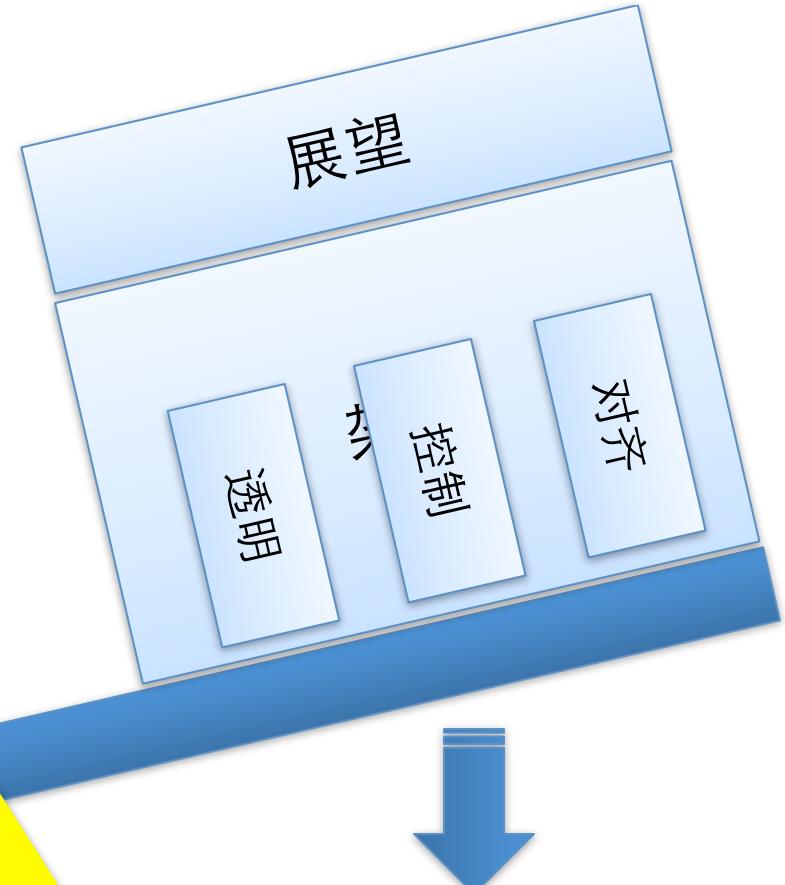
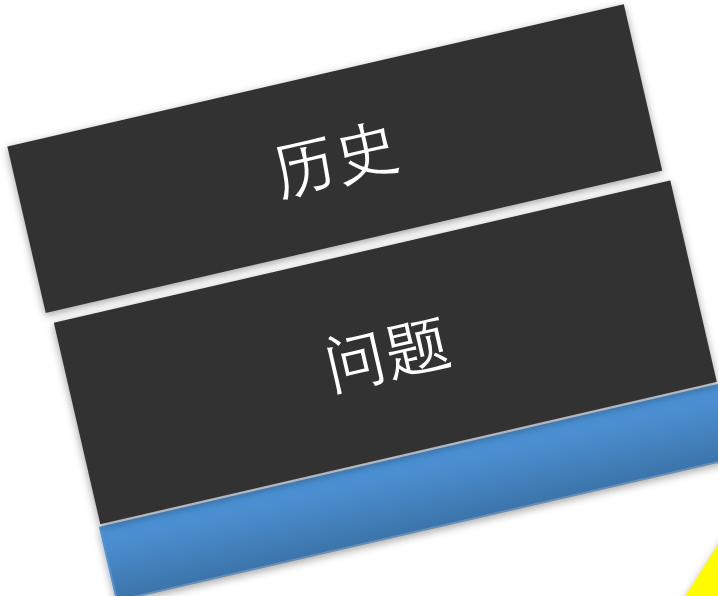


上帝...照着自己的形像造人，对他们说
要生养众多，遍满地面，治理这地



上帝...照着自己的形像造人，对他们说
要生养众多，遍满地面，治理这地

治理



SOA governance is doing the right SOA things the right way of the SOA stakeholders.

Eric A. Marks: “SOA Governance of the Services Driven Enterprise”

SOA Governance is a concept used for activities related to exercising control over services in an SOA. The specific focus of SOA governance is on the development of services that add value to the business, effective SOA governance must cover the people, processes, and technologies involved in the entire SOA life cycle.

— Wikipedia

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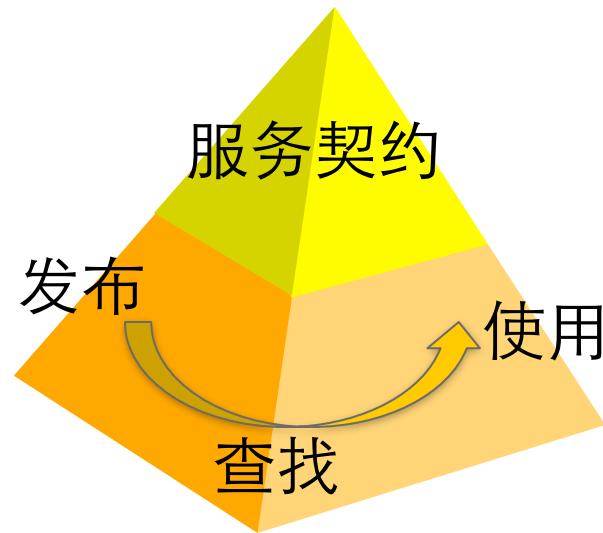
Eric A. Marks: “SOA Governance of the Services Driven Enterprise”

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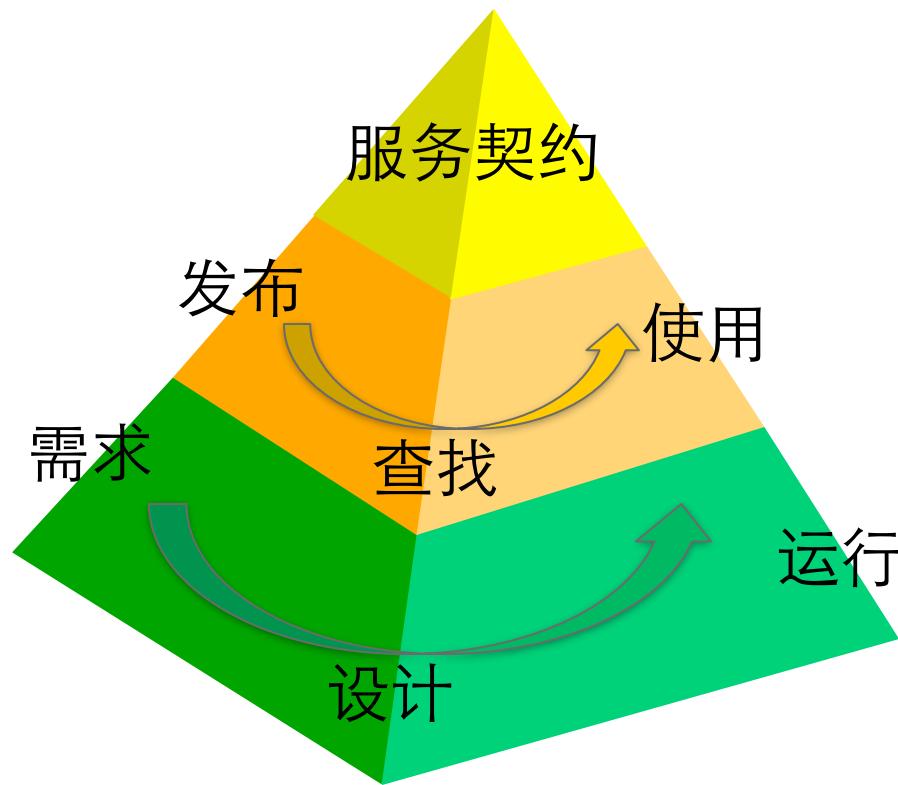


概念-GTU



概念-GTU

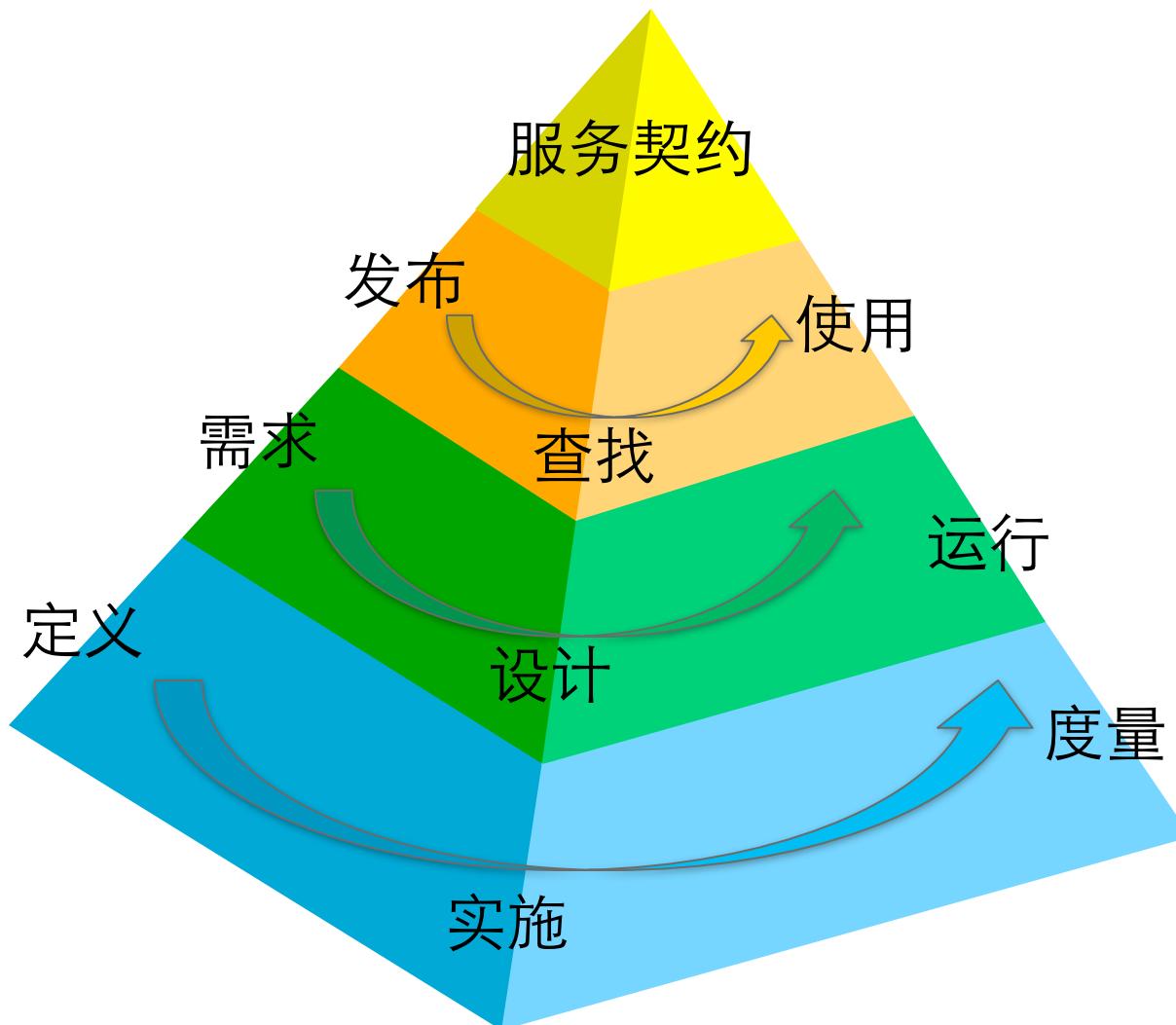
运行-GTW



概念-GTU

运行-GTW

开发-GTD



概念-GTU

运行-GTW

开发-GTD

治理-GTR

天王盖地虎		理解SOA Governance	发表于 2008-10-26
面壁修炼		我们早就有了	
天王盖地虎		更多是管理流程，类似CMMI？	
面壁修炼		分好几个level，譬如你定义一个数据类型也要申请	



实现治理：可以以人为本



实现治理：可以以人为本



技术架构师

应用架构师

业务架构师

开发人员

实现治理：可以以人为本



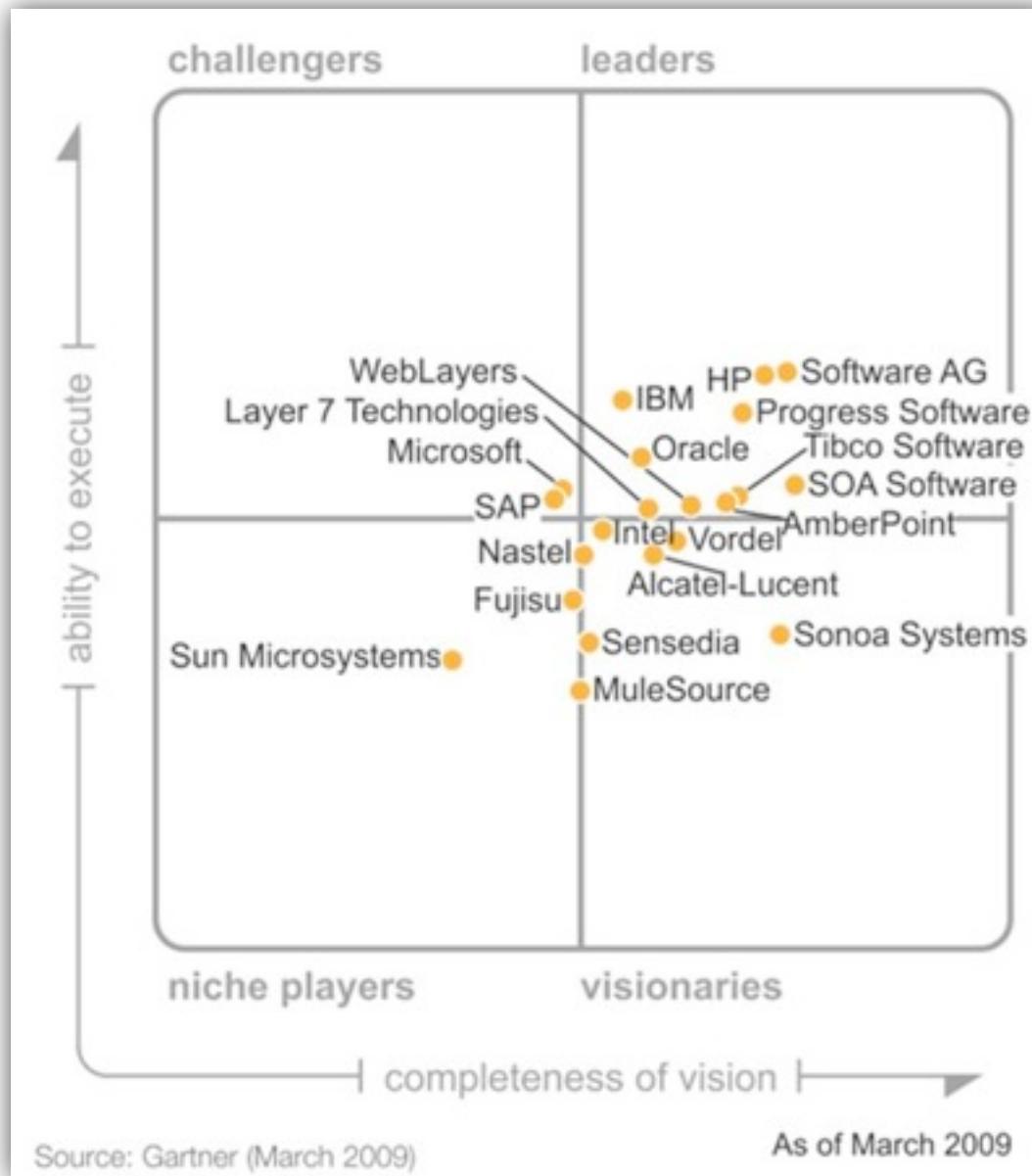
实现治理：可以以人为本



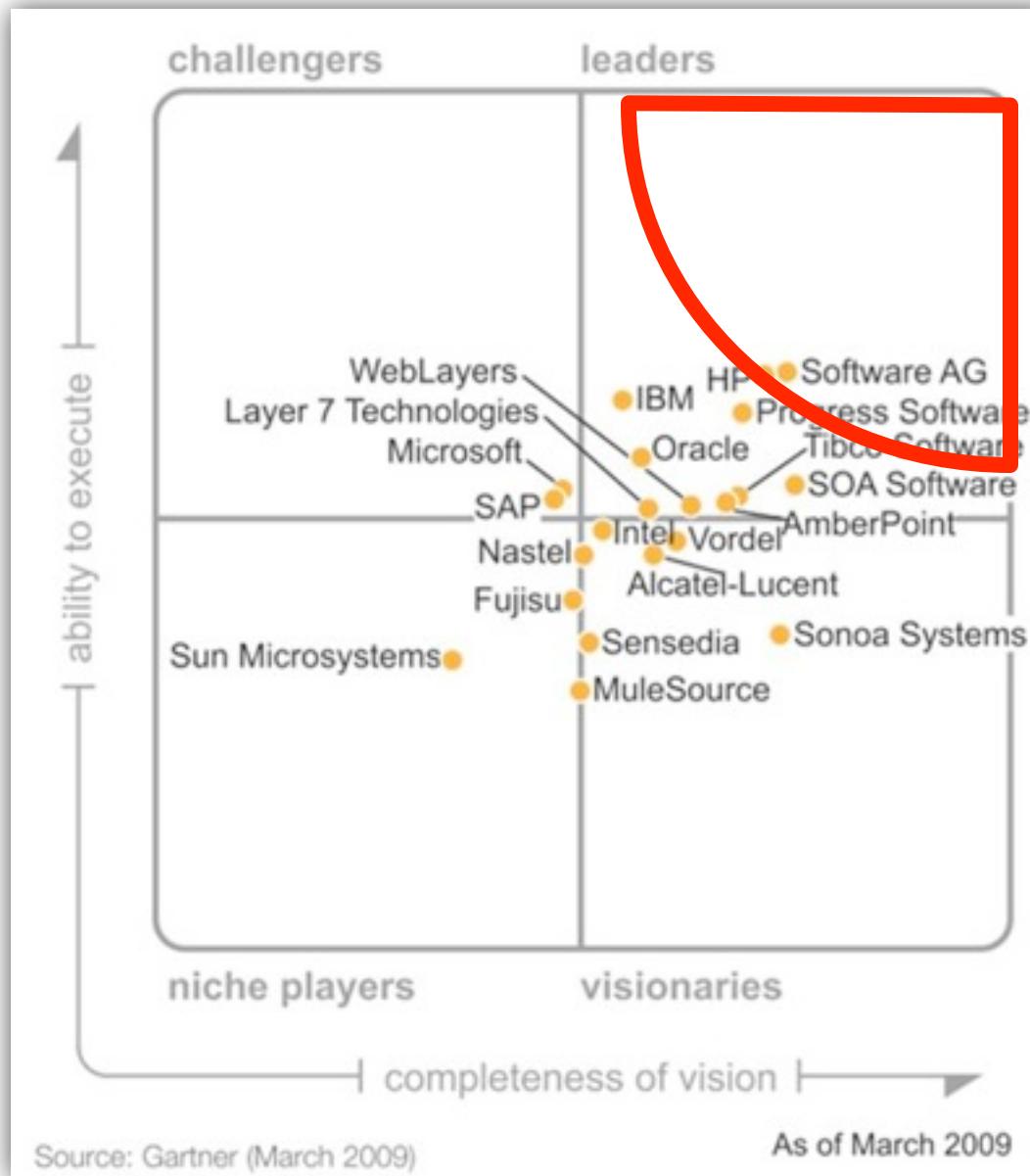
实现治理：可以以人为本



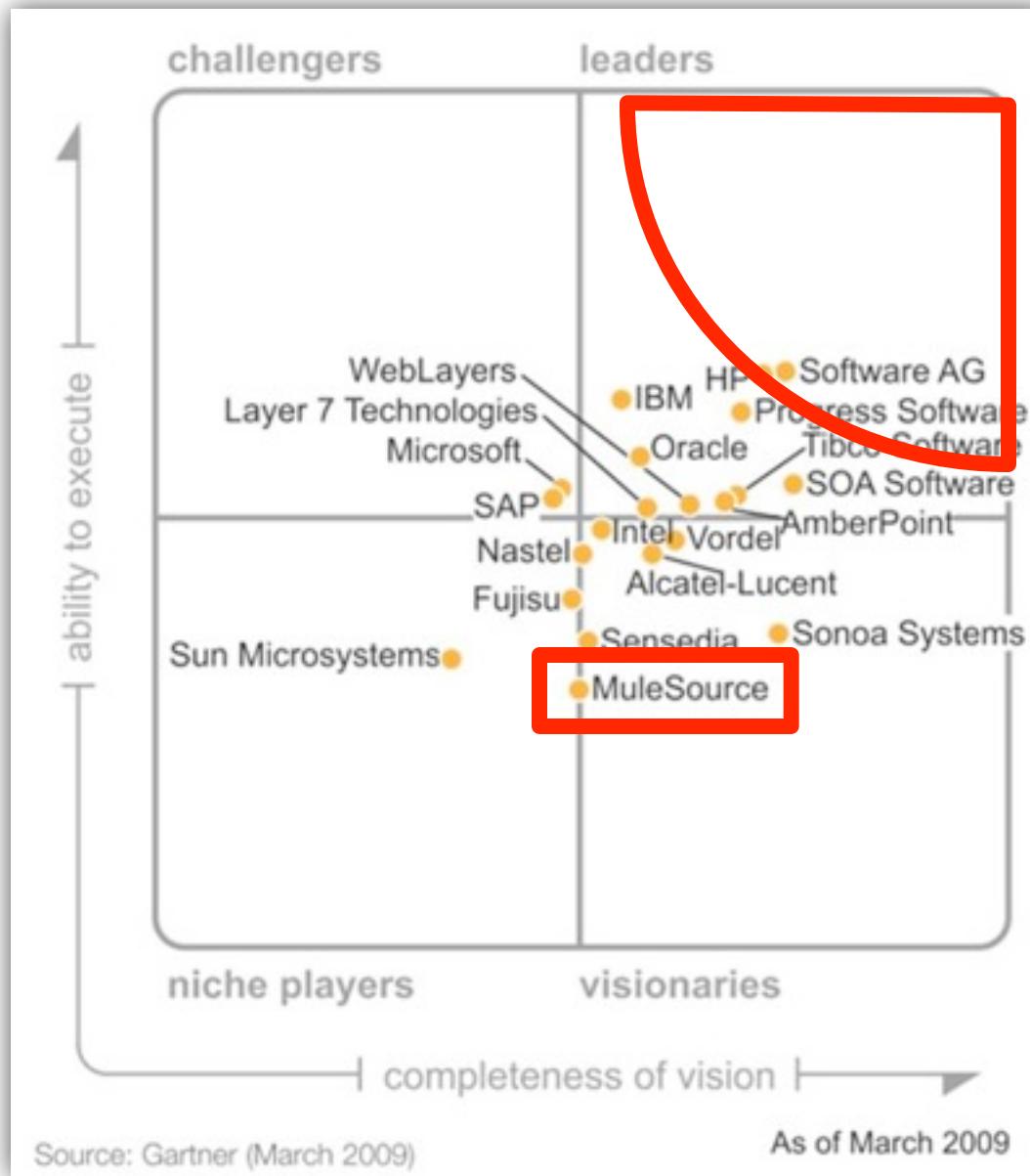
实现治理：可以不差钱

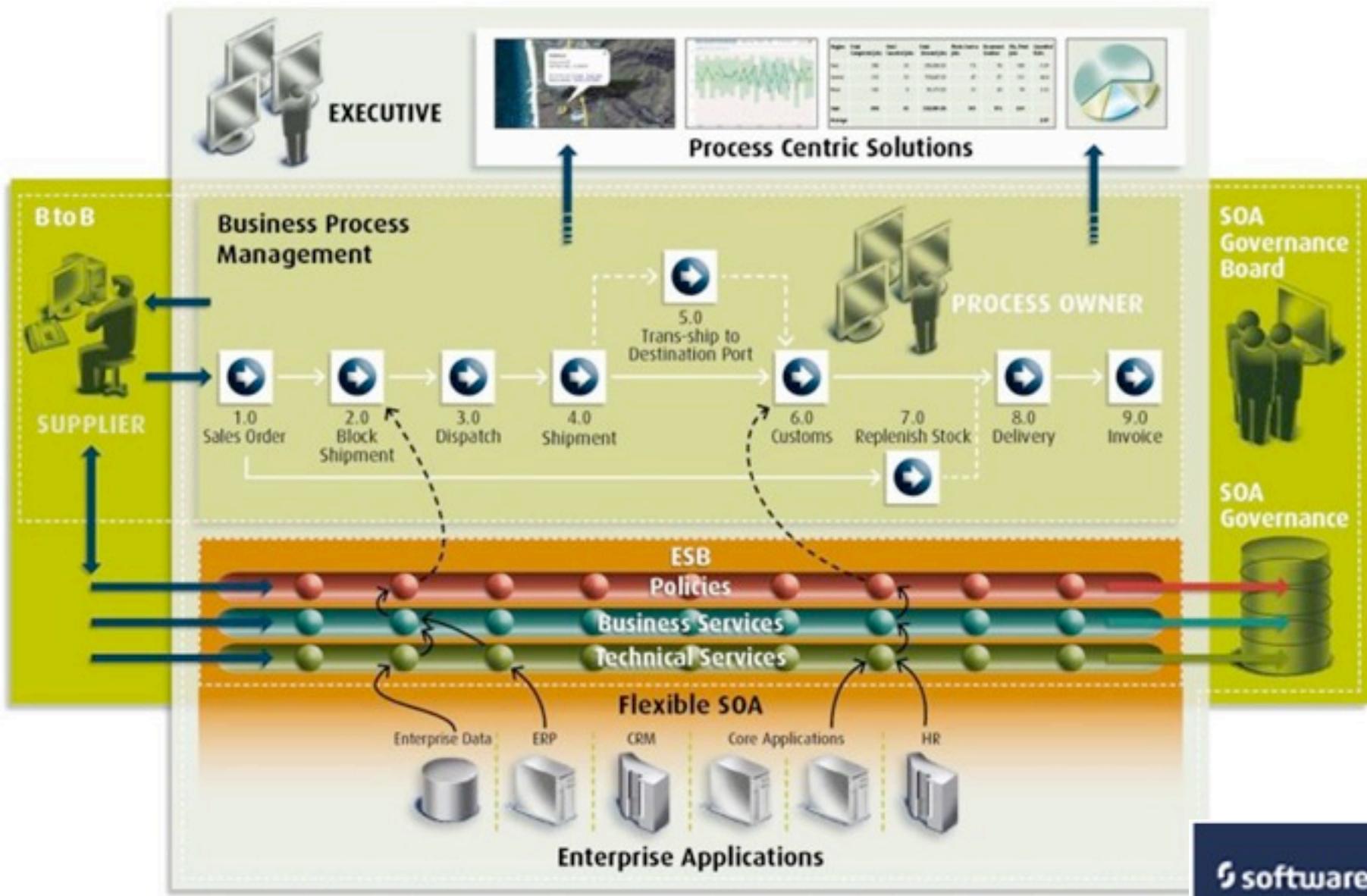


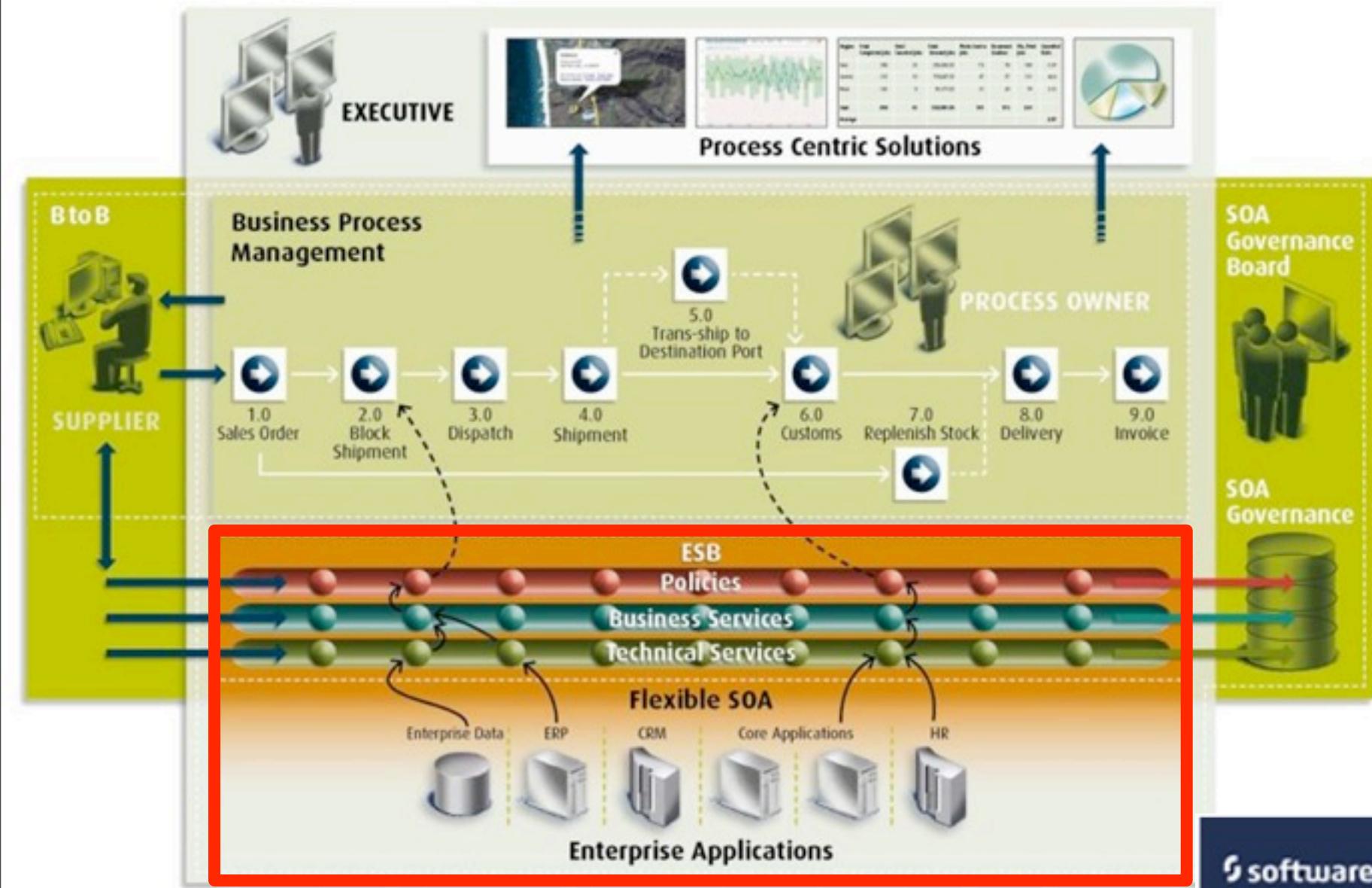
实现治理：可以不差钱

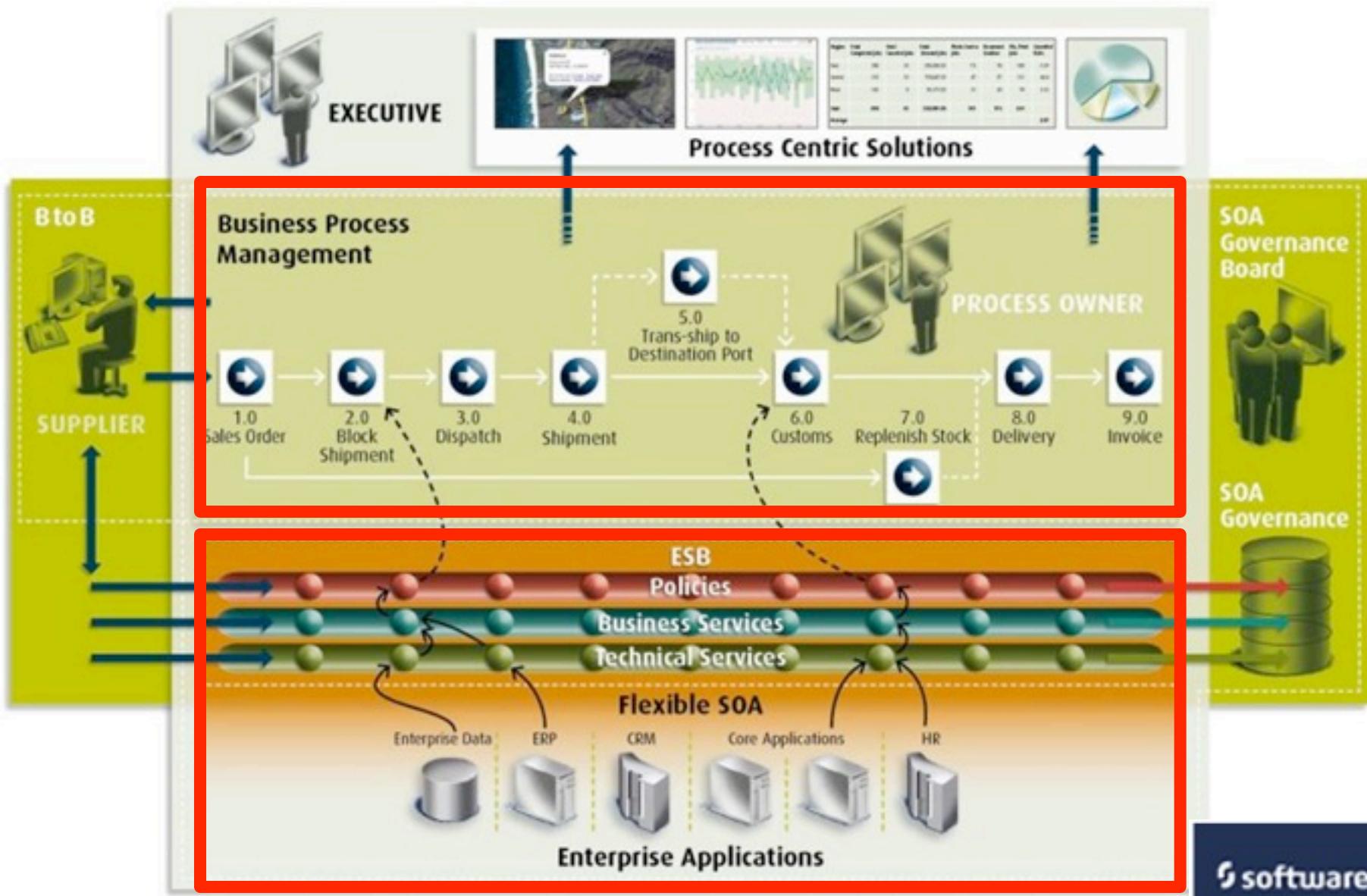


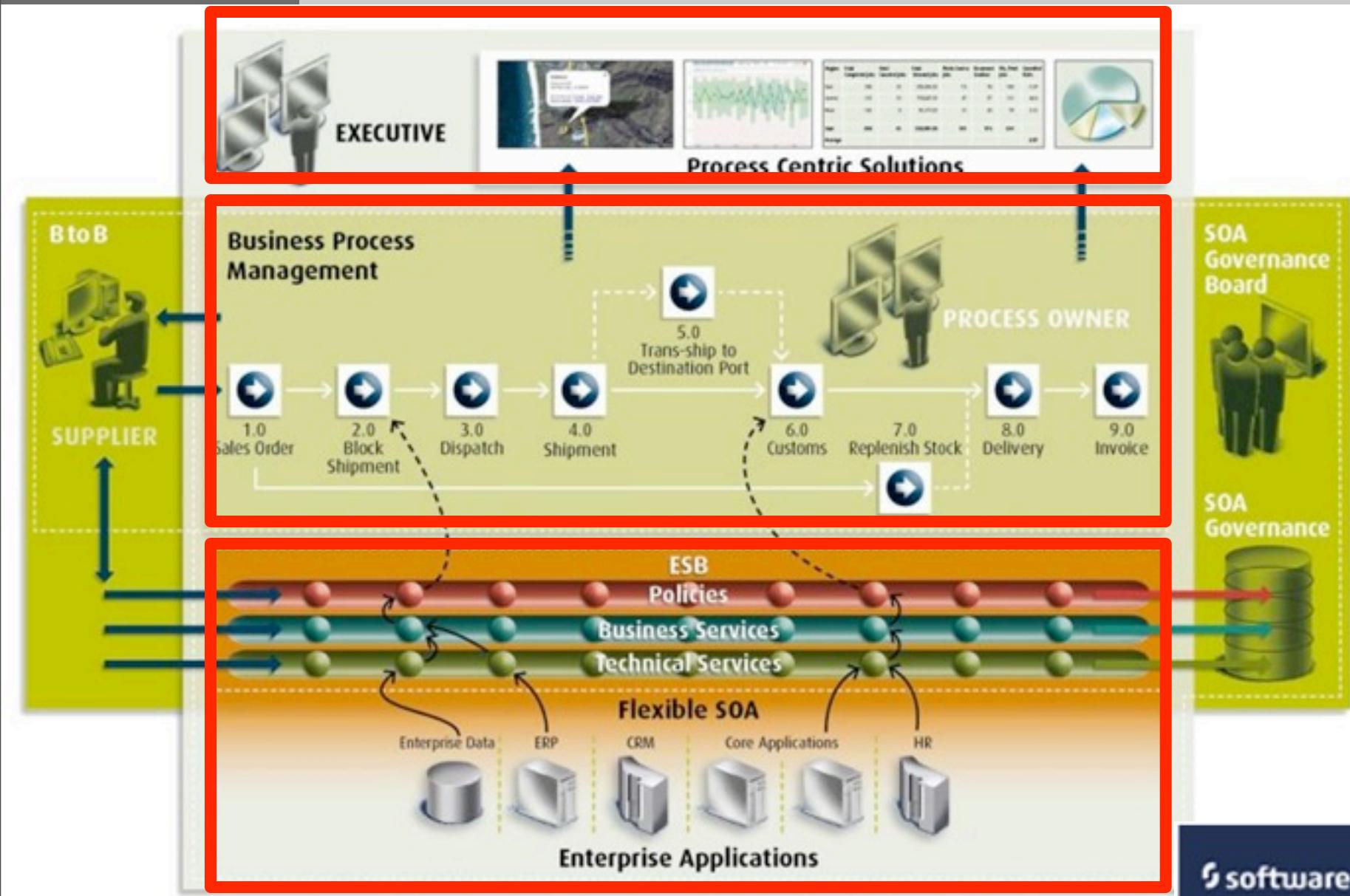
实现治理：可以不差钱

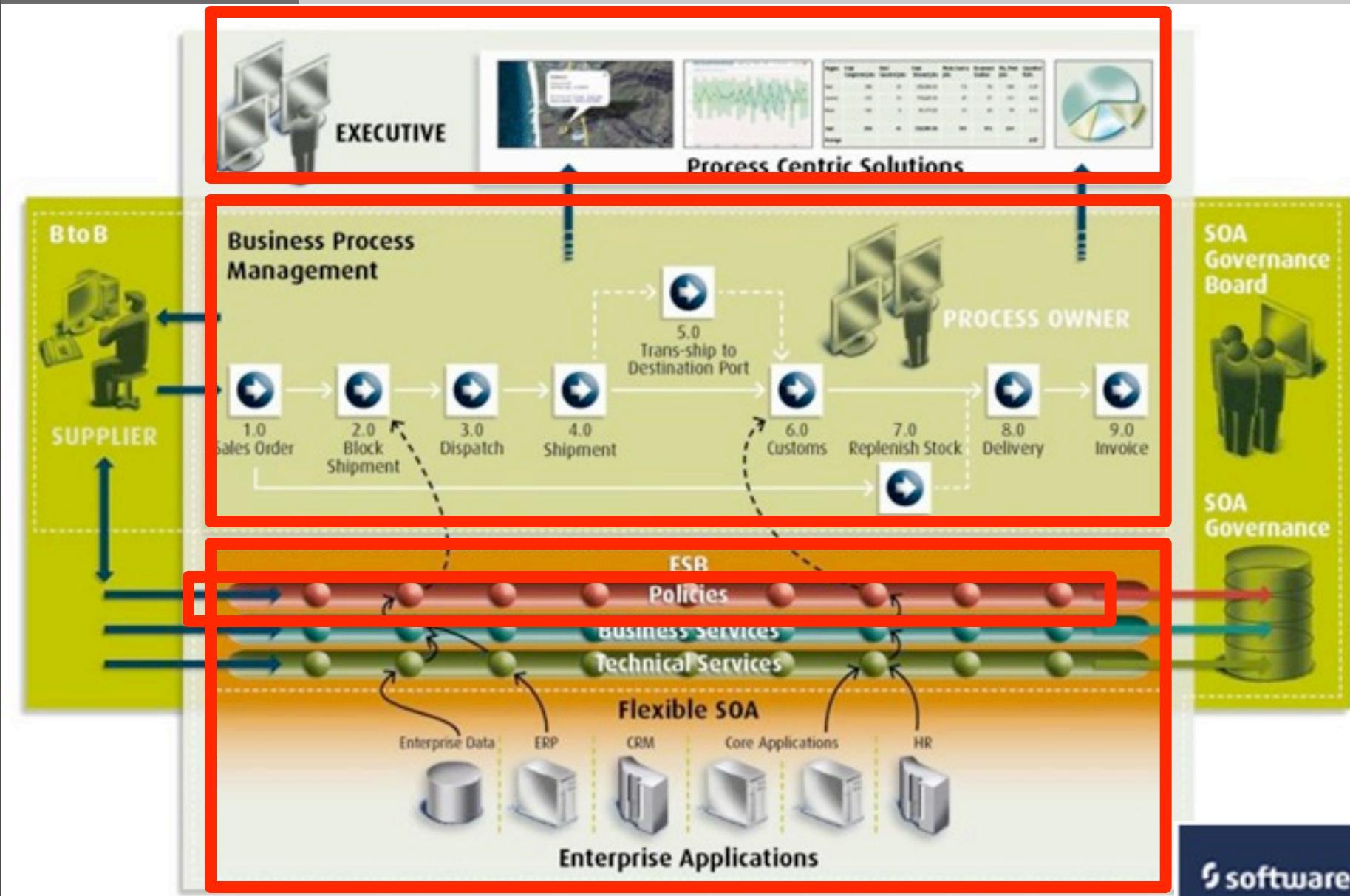


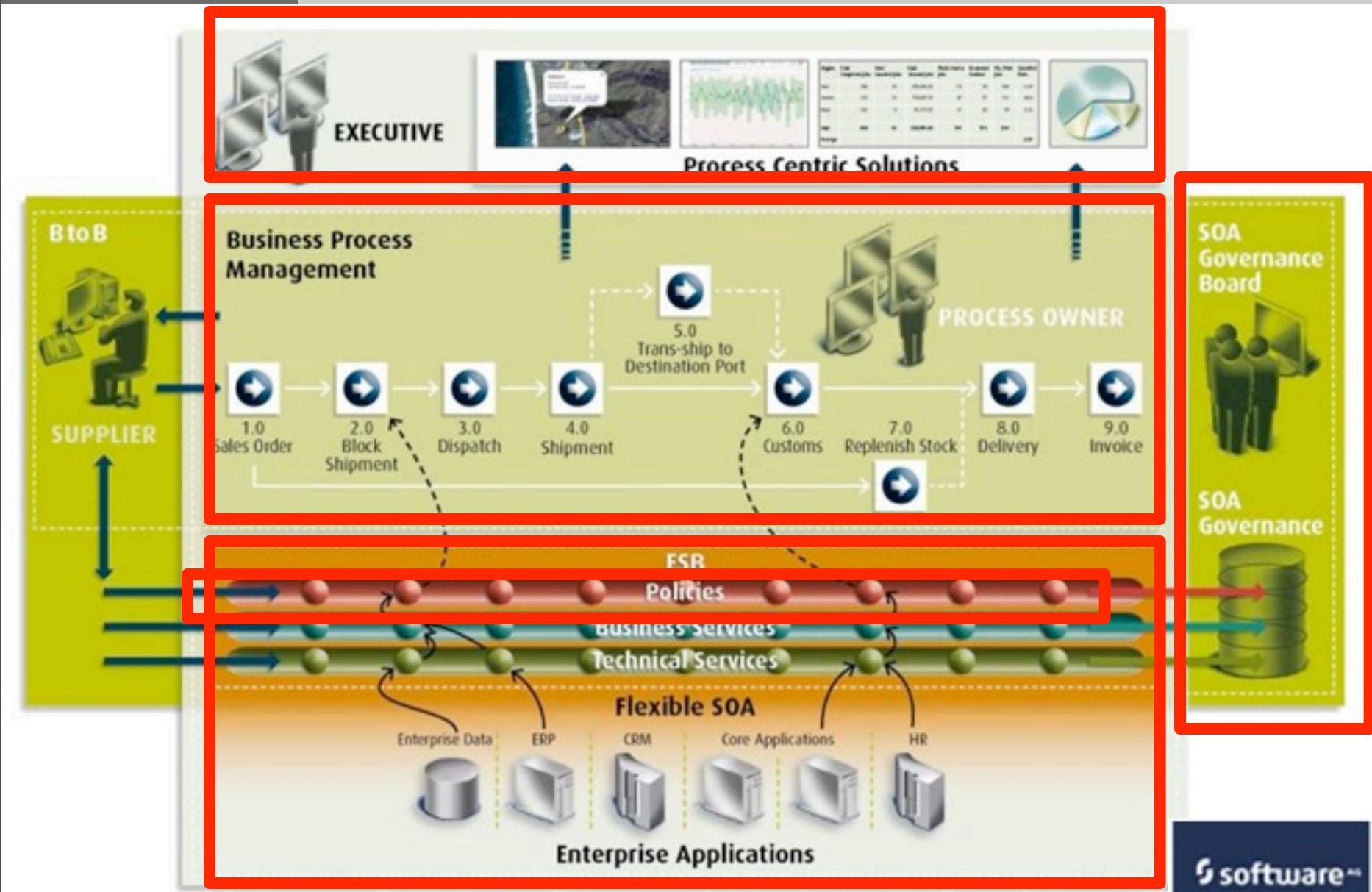




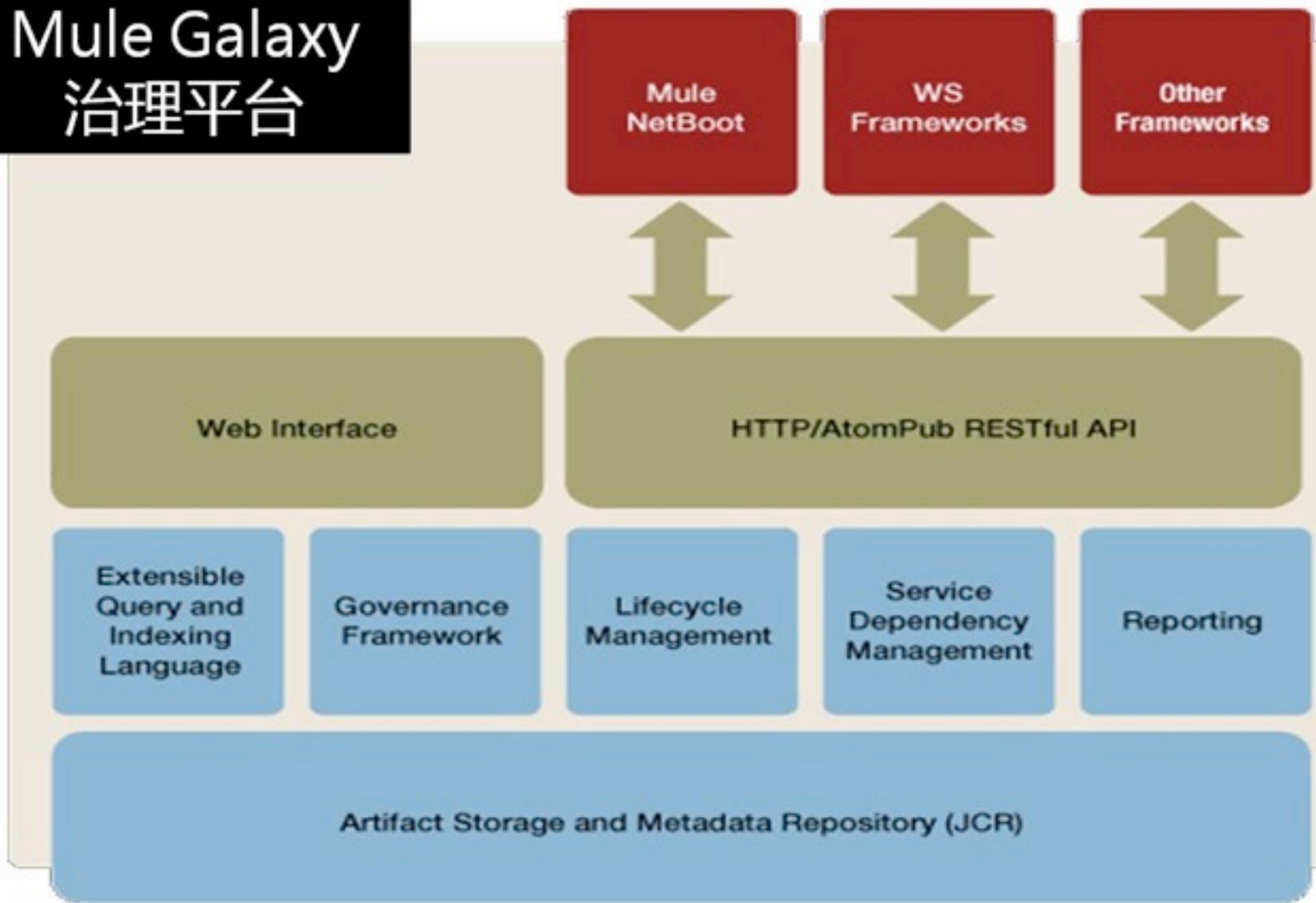




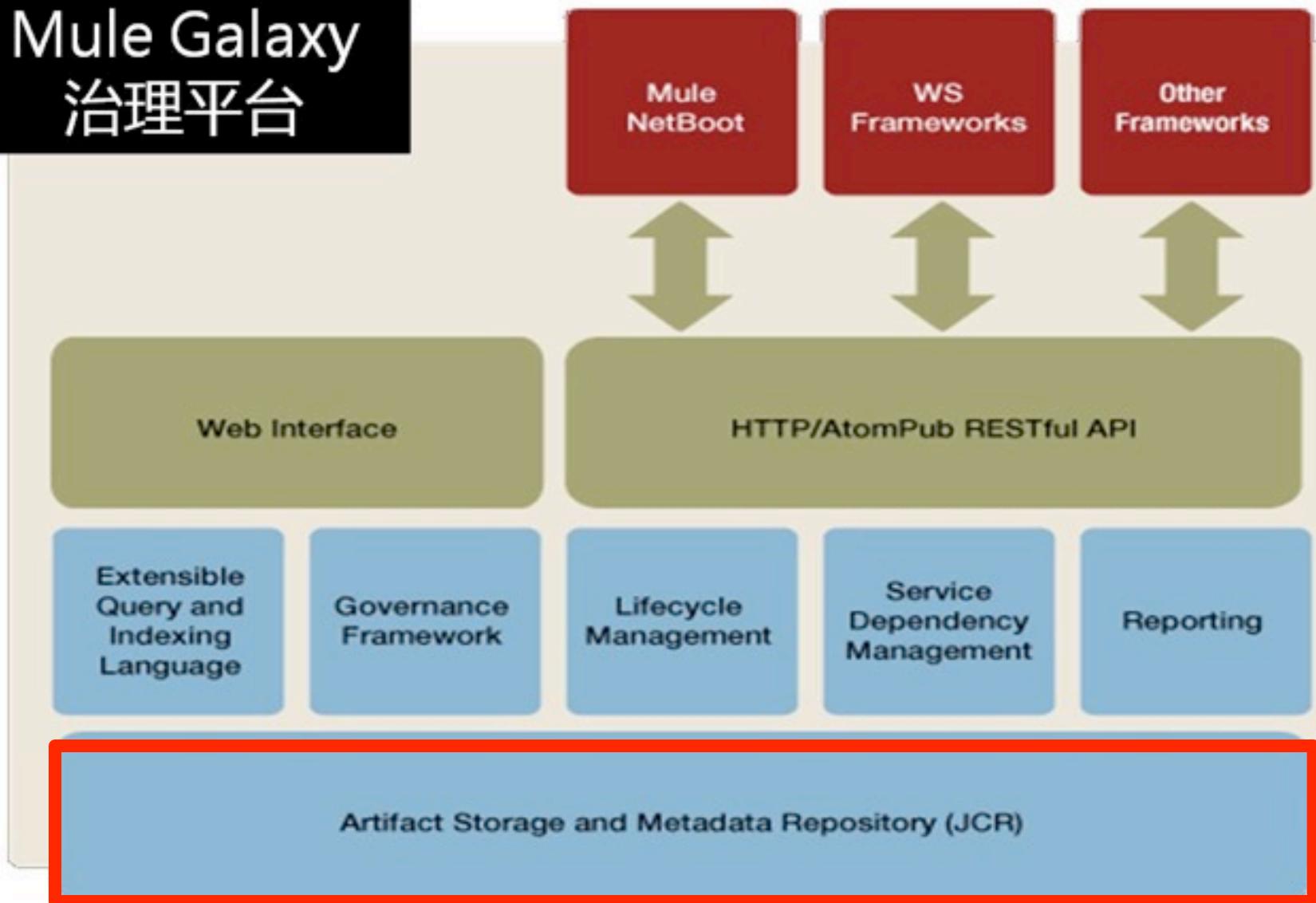




Mule Galaxy 治理平台



Mule Galaxy 治理平台



Mule Galaxy 治理平台

Web Interface

HTTP/AtomPub RESTful API

Mule
NetBoot

WS
Frameworks

Other
Frameworks

Extensible
Query and
Indexing
Language

Governance
Framework

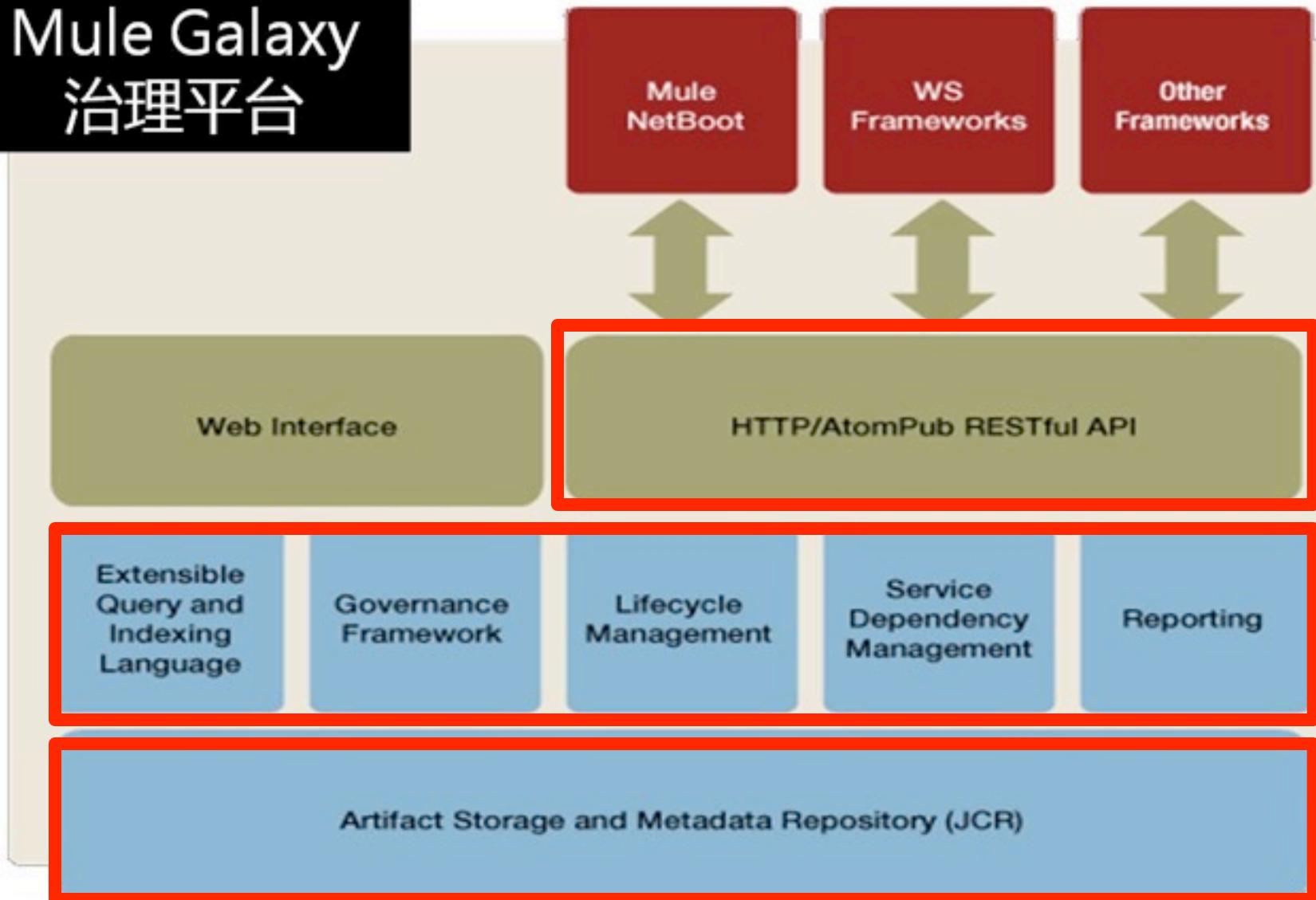
Lifecycle
Management

Service
Dependency
Management

Reporting

Artifact Storage and Metadata Repository (JCR)

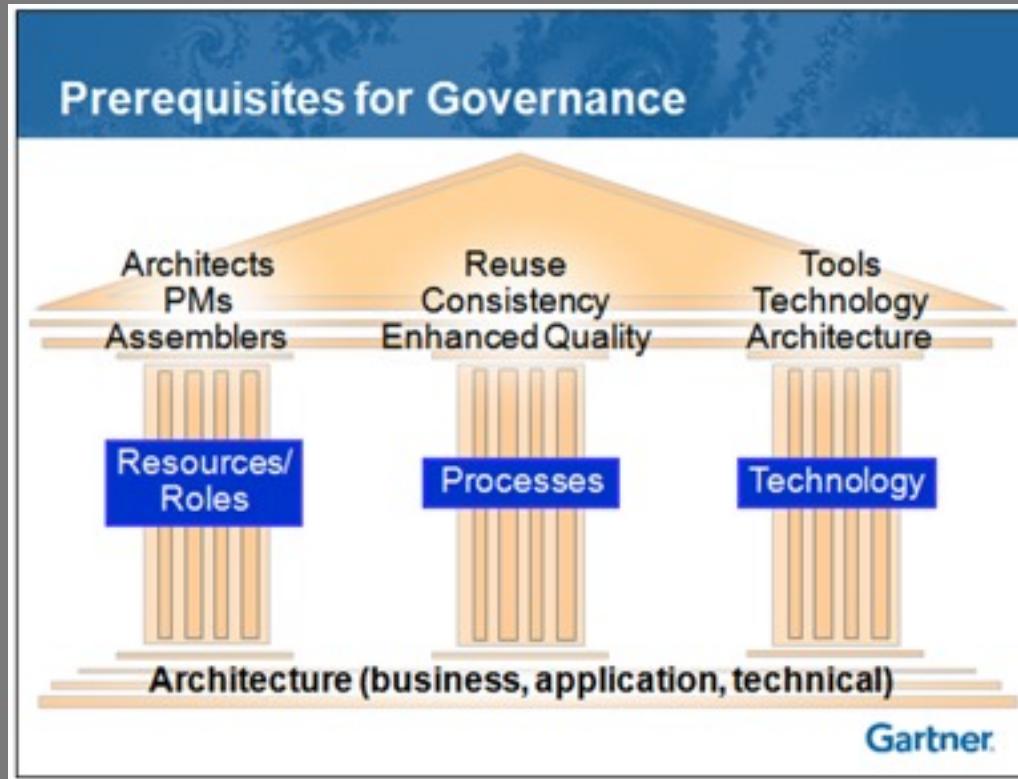
Mule Galaxy 治理平台



Through 2010, a lack of working SOA governance arrangements will be the most common reason for SOA failure.

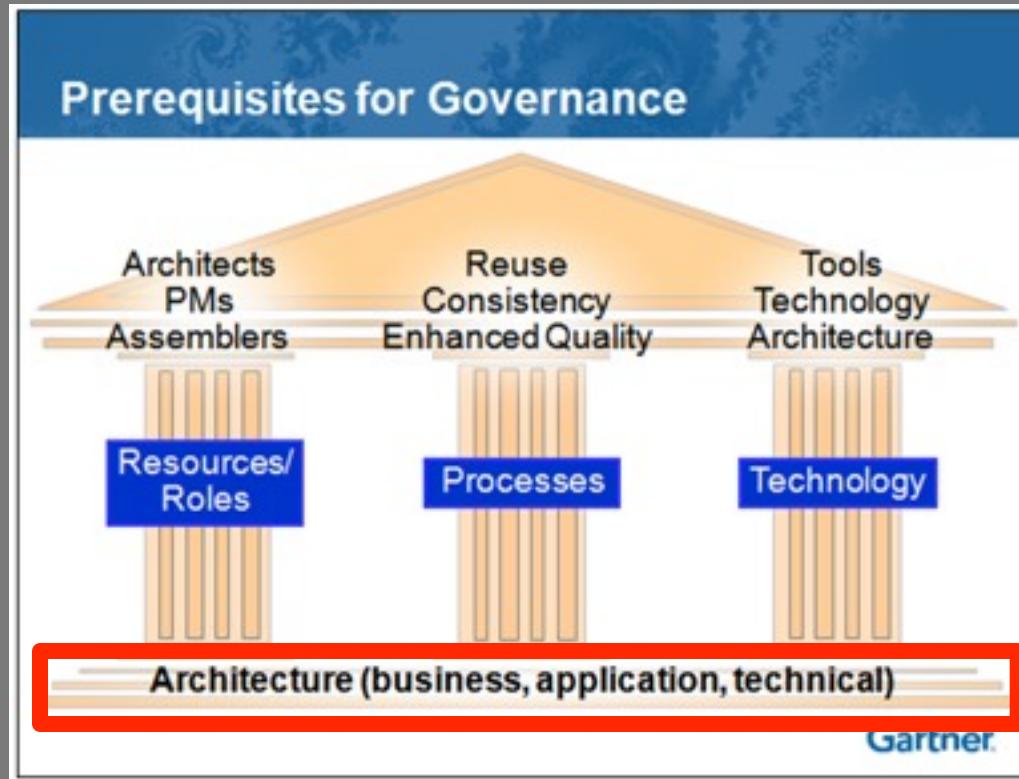
“Application and SOA Governance, The Who, What and Why”
- Matt Hotle, Gartner, June 2008

Through 2010, a lack of working SOA governance arrangements will be the most common reason for SOA failure.



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治理

作为架构师的你



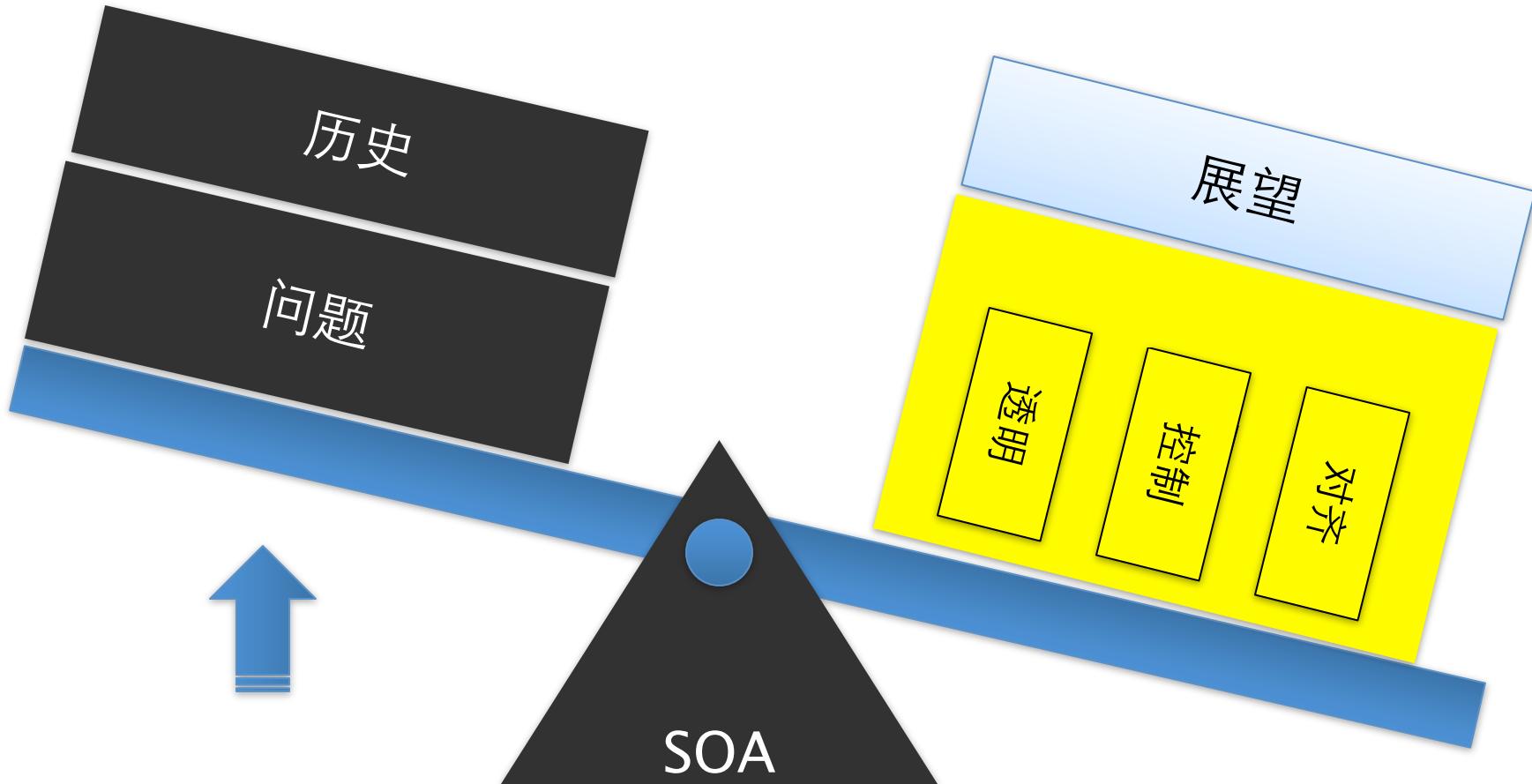
治理

作为架构师的你



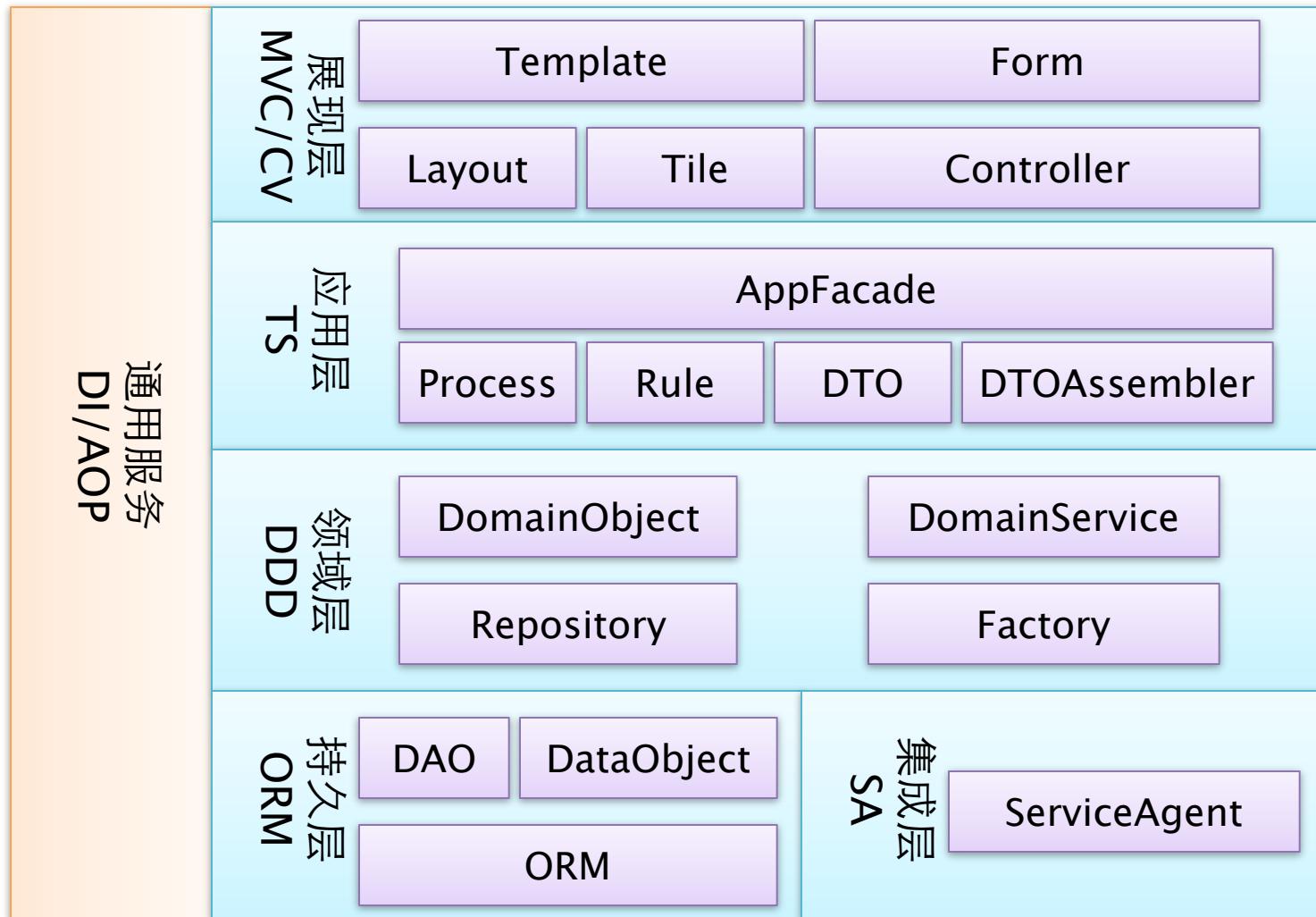
该出手了！

架构



A photograph of a fish skeleton against a bright yellow background. The skeleton is positioned centrally, showing its internal structure. In the foreground, there are silhouettes of green plants with small leaves. The overall composition is minimalist and metaphorical.

你能看清你的系统的骨架吗？





```
<table sqlname="pay_rule">
    <operation name="selectAll">
        <sql>select * from pay_rule where available_status = 'Y'</sql>
    </operation>
```



小工具 DALGen

Middlegen

SQLParser

Model

Glue

Velocity

PayRuleDO.java

PayRuleDAO.java

IbatisPayRuleDAOImpl.java



beans-dao.xml

sqlmap.xml

PayRule-sqlmap-
Mapping.xml

对抗集体性拖拉的GTD法则

别做大项目，从小项目开始，而且永远不要期望它变大。如果这么想，就会做过度设计，把它想象得过于重要。更坏的情况是，你可能会被自己想象中的艰难工作所吓……我致力于Linux达13年之久，我想后面还得花上好些时间。如果一早就妄想做个大东西，可能现在还没动手呢。

—— Linus Torvalds

sqlmap.xml

PayRuleDAO.java

IbatisPayRuleDAOImpl 摘自《梦断代码 - Dreaming In Code》, 韩磊译

```
@AccountTransAction  
AccountTransResult withdrawBalance(String txId,   
                                       
                                       
                                     );
```

打上@AccountTransAction标记，你可以

- 说明这是账务处理操作
- 统计共有多少账务处理操作
- 跟踪账务处理操作接口的变更
- 自动控制访问权限
- 自动控制事务边界
- 自动填写参数(txId)
- 自动监测执行性能
- 自动记录审计日志

G F Cargo

- trackingId : TrackingId
- origin : Location
- destination : Location
- itinerary : Itinerary
- deliveryHistory : DeliveryHistory
- **Cargo(TrackingId, Location, Location)**
- trackingId()
- origin()
- changeDestination(Location)
- destination()
- deliveryHistory()
- itinerary()
- lastKnownLocation()
- hasArrived()
- attachItinerary(Itinerary)
- detachItinerary()
- ▲ setDeliveryHistory(DeliveryHistory)
- isMisdirected()
- isUnloadedAtDestination()

```

8@/**
9 * A Cargo. This is the central class in the domain model,
10 * and it is the root of the Cargo-Itinerary-Leg-Delivery
11 *
12 * A cargo is identified by a unique tracking id, and it is
13 * and a destination. The life cycle of a cargo begins with
14 * when the tracking id is assigned. During a (short) period
15 * and initial routing, the cargo has no itinerary.
16 *
17 * The booking clerk requests a list of possible routes,
18 * and assigns the cargo to one route. An itinerary listing
19 * is attached to the cargo.
20 *
21 * A cargo can be re-routed during transport, on demand of
22 * the destination is changed and a new route is requested.
23 * being a value object, is discarded and a new one is attached.
24 *
25 * It may also happen that a cargo is accidentally misrouted
26 * personnel and also trigger a re-routing procedure.
27 *
28 * The life cycle of a cargo ends when the cargo is claimed
29 *
30 * The cargo aggregate, and the entire domain model, is built

```

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```

@DomainRoot("Cargo")

G F Cargo

- trackingId : TrackingId
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- itinerary : Itinerary
- deliveryHistory : DeliveryHistory
- Cargo(TrackingId, Location, Location)
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代码摘自<http://dddsample.sourceforge.net/>

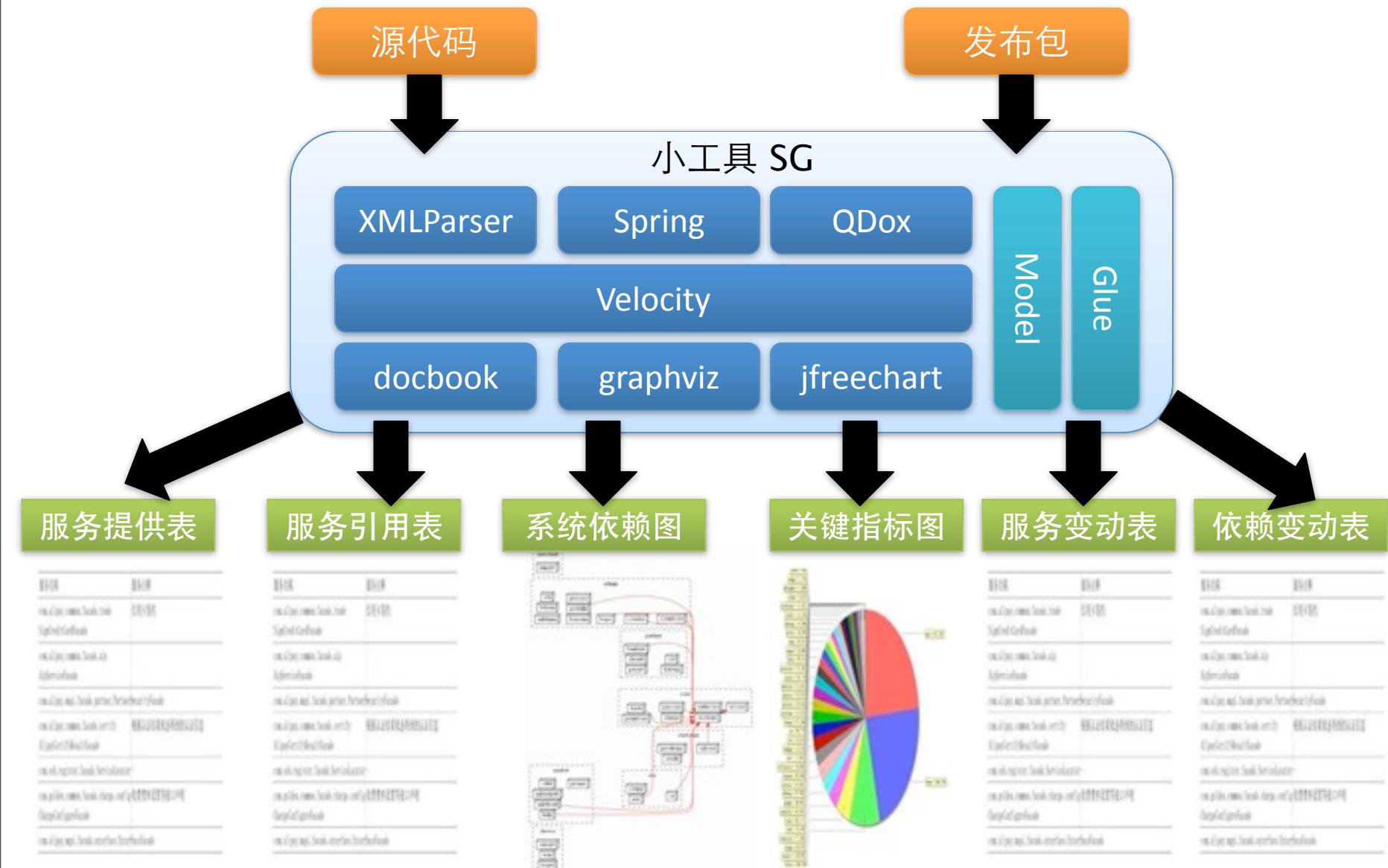
@DomainRoot("Cargo")

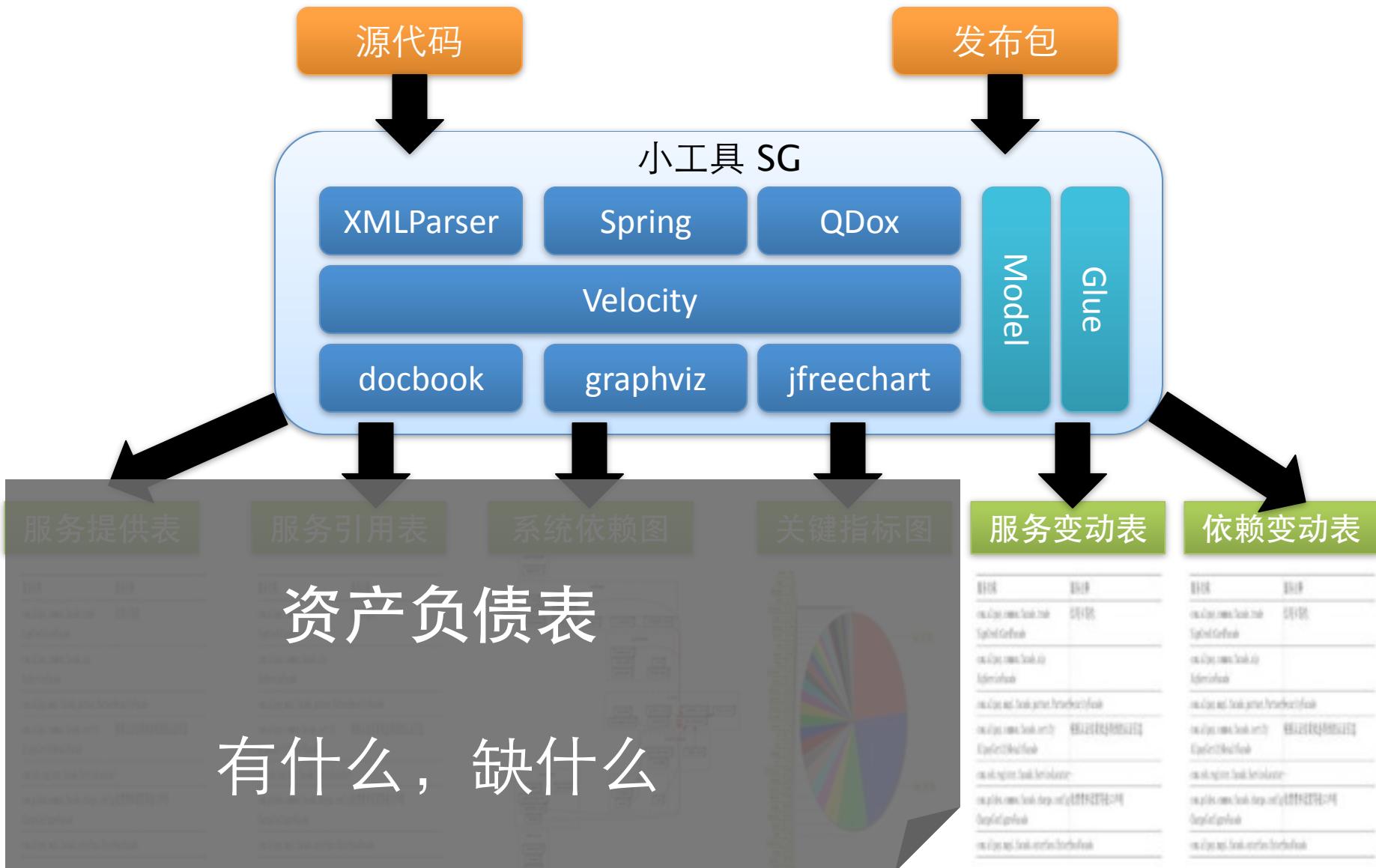


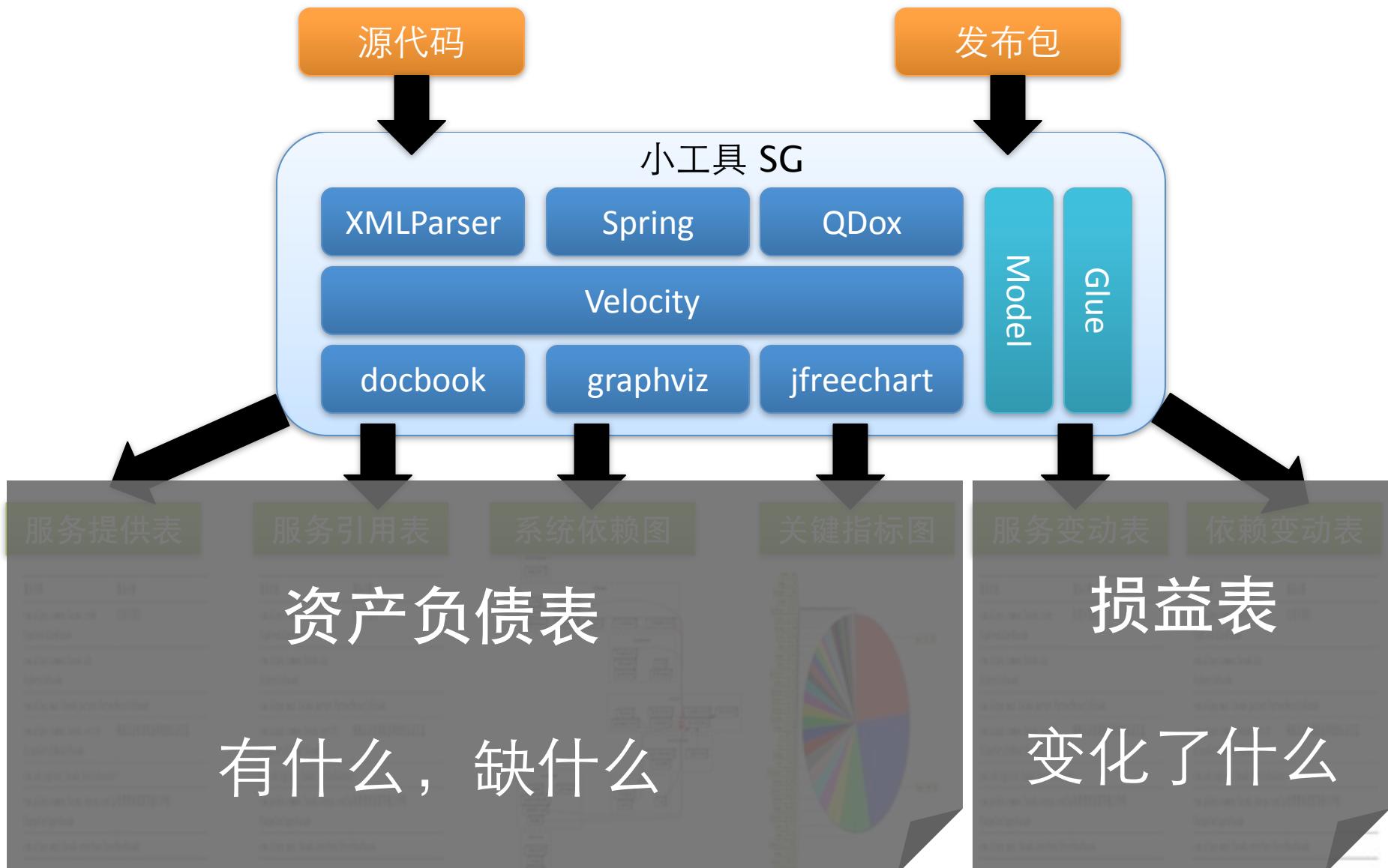
文档可以少写

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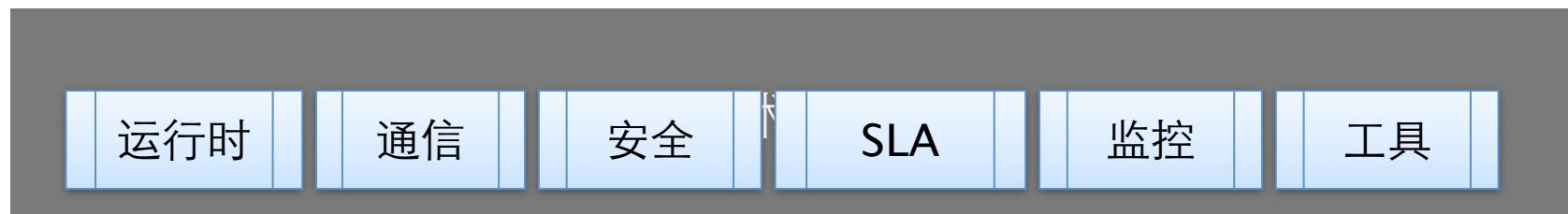


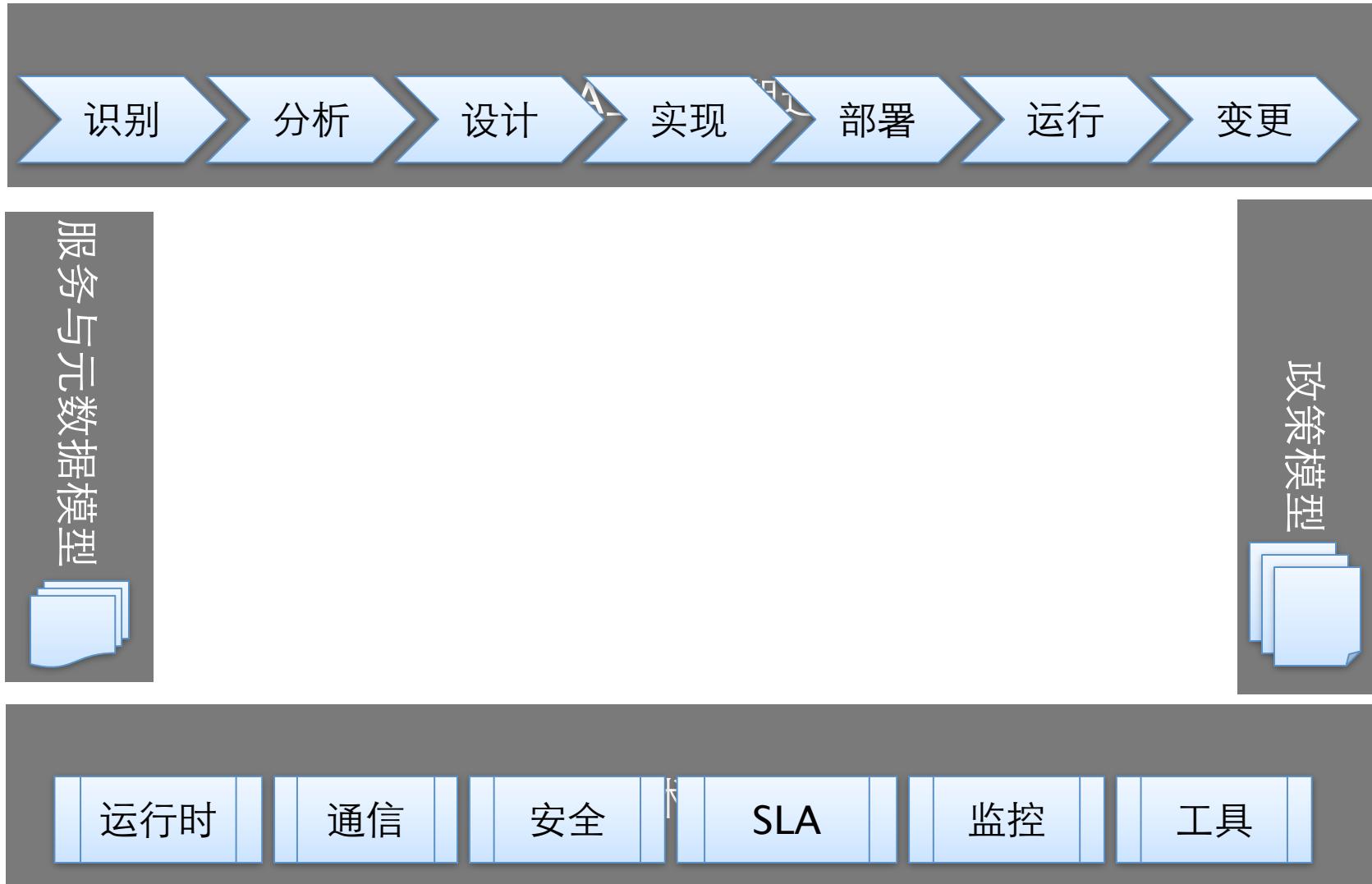


Registry与Repository

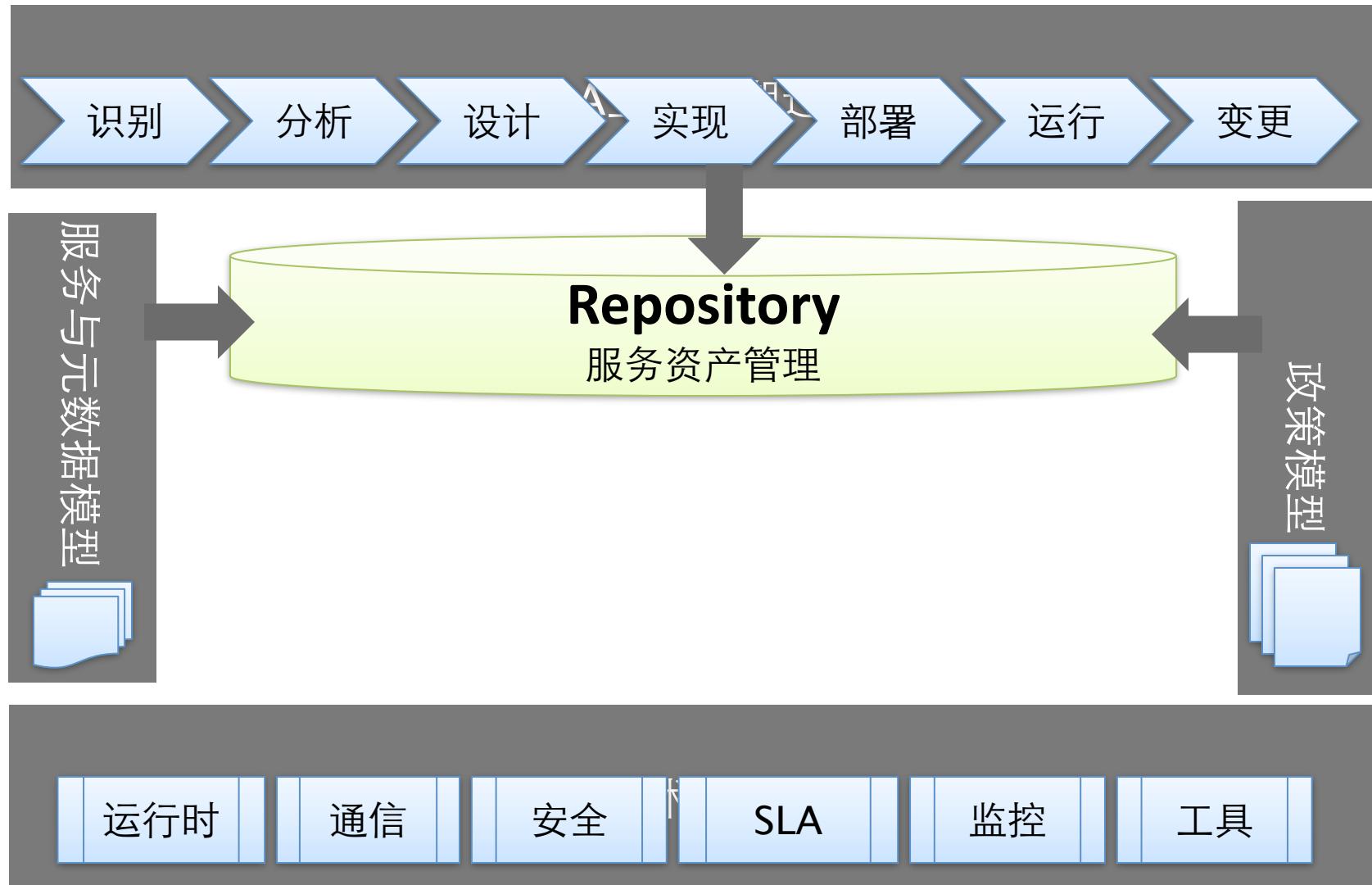




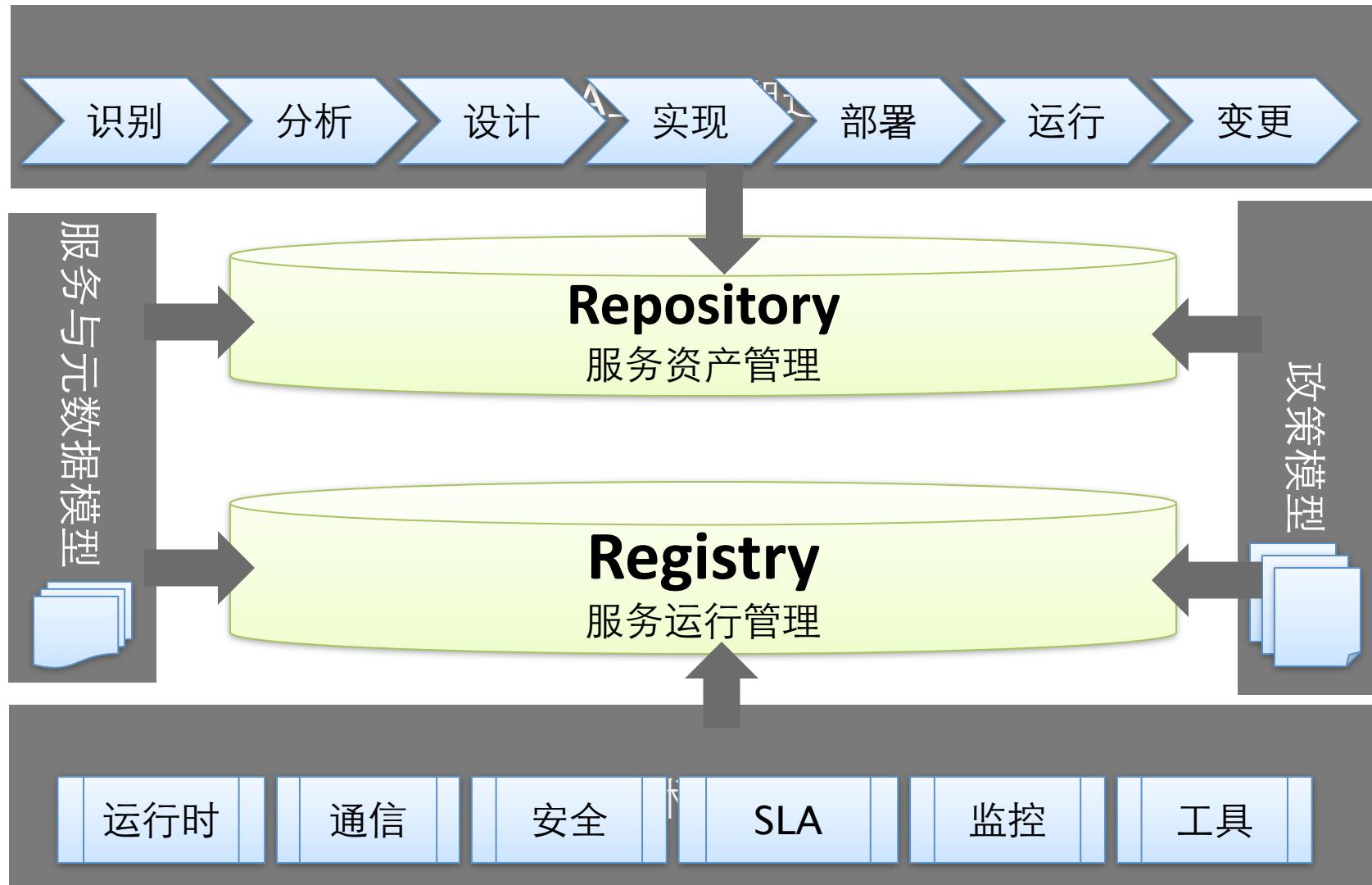




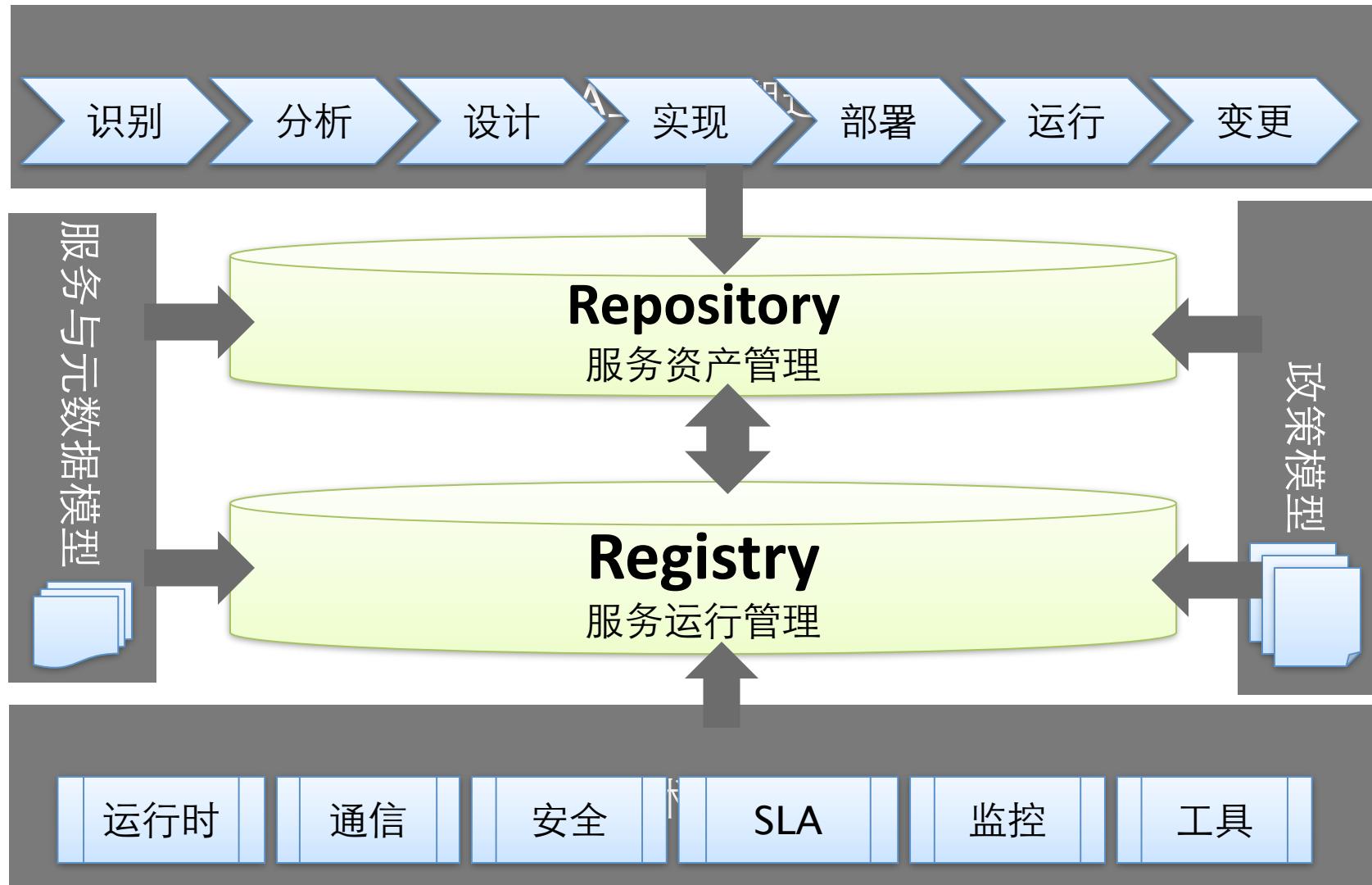
Registry与Repository



Registry与Repository



Registry与Repository





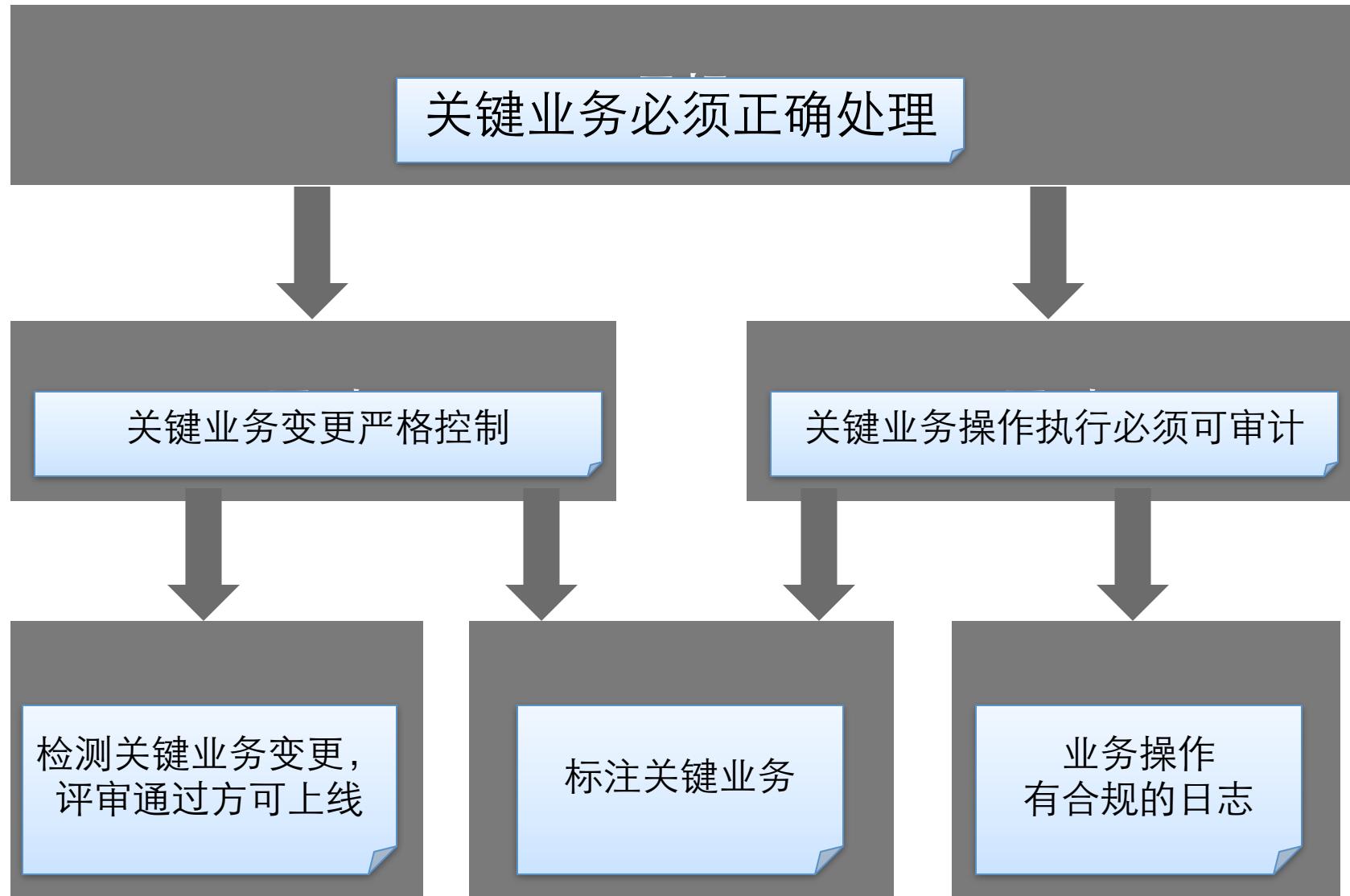
大处着眼，小处着手

关键业务必须正确处理

关键业务必须正确处理

关键业务变更严格控制

关键业务操作执行必须可审计



业务操作有合规的日志

服务消费者

业务逻辑

服务代理
Service Agent

服务提供者

服务接口
Service Interface

业务逻辑

业务操作有合规的日志

服务消费者

业务逻辑

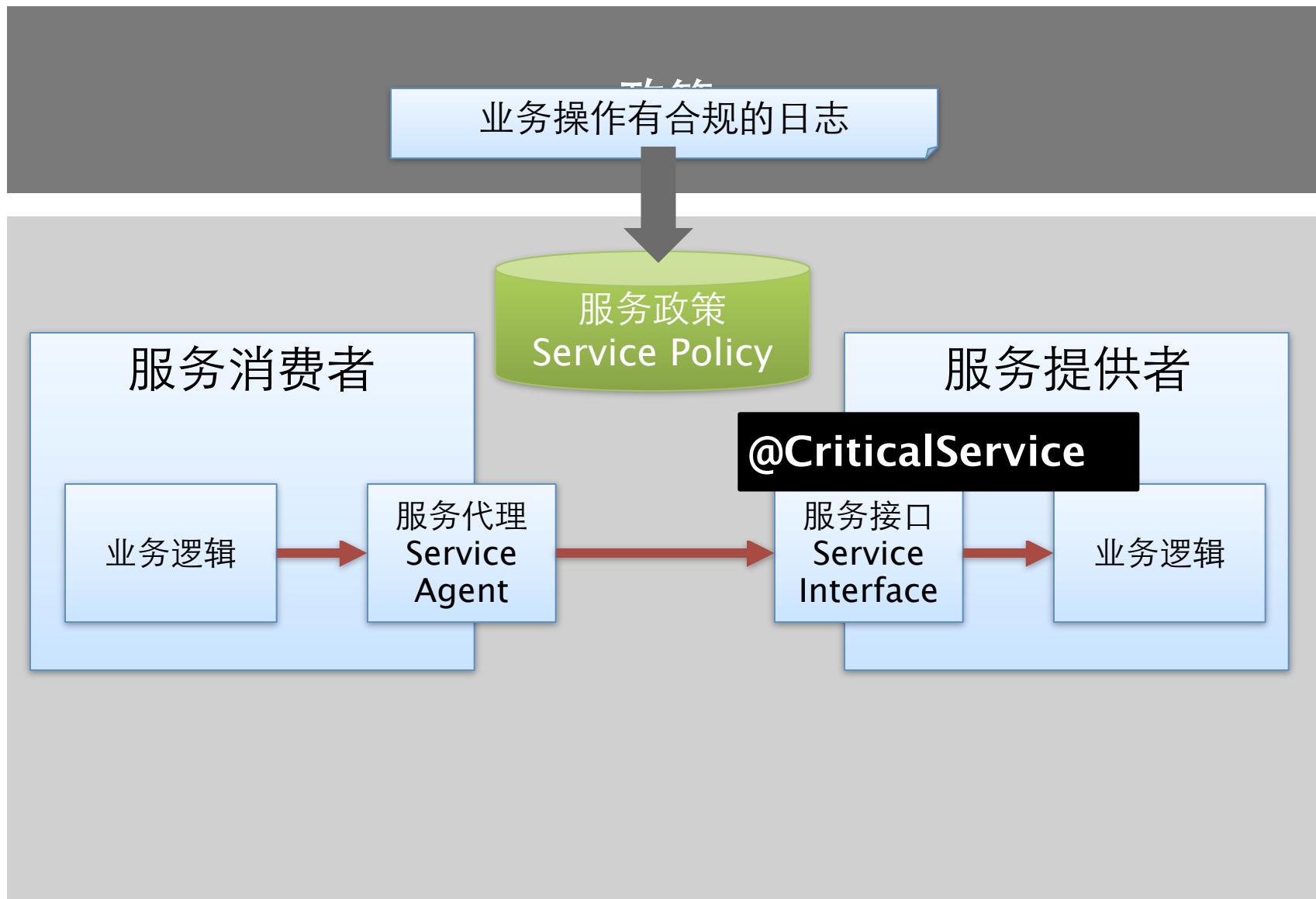
服务代理
Service Agent

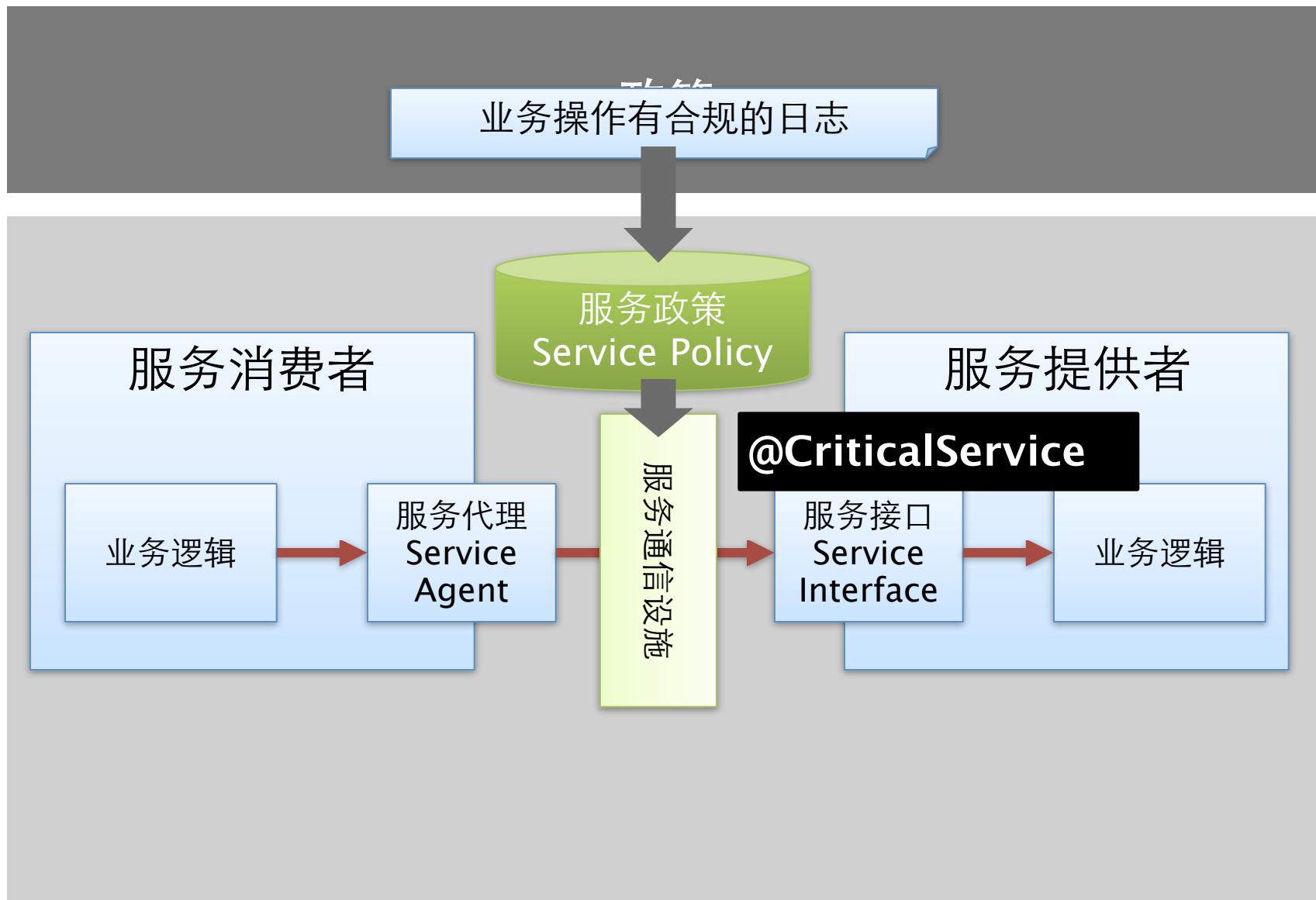
服务提供者

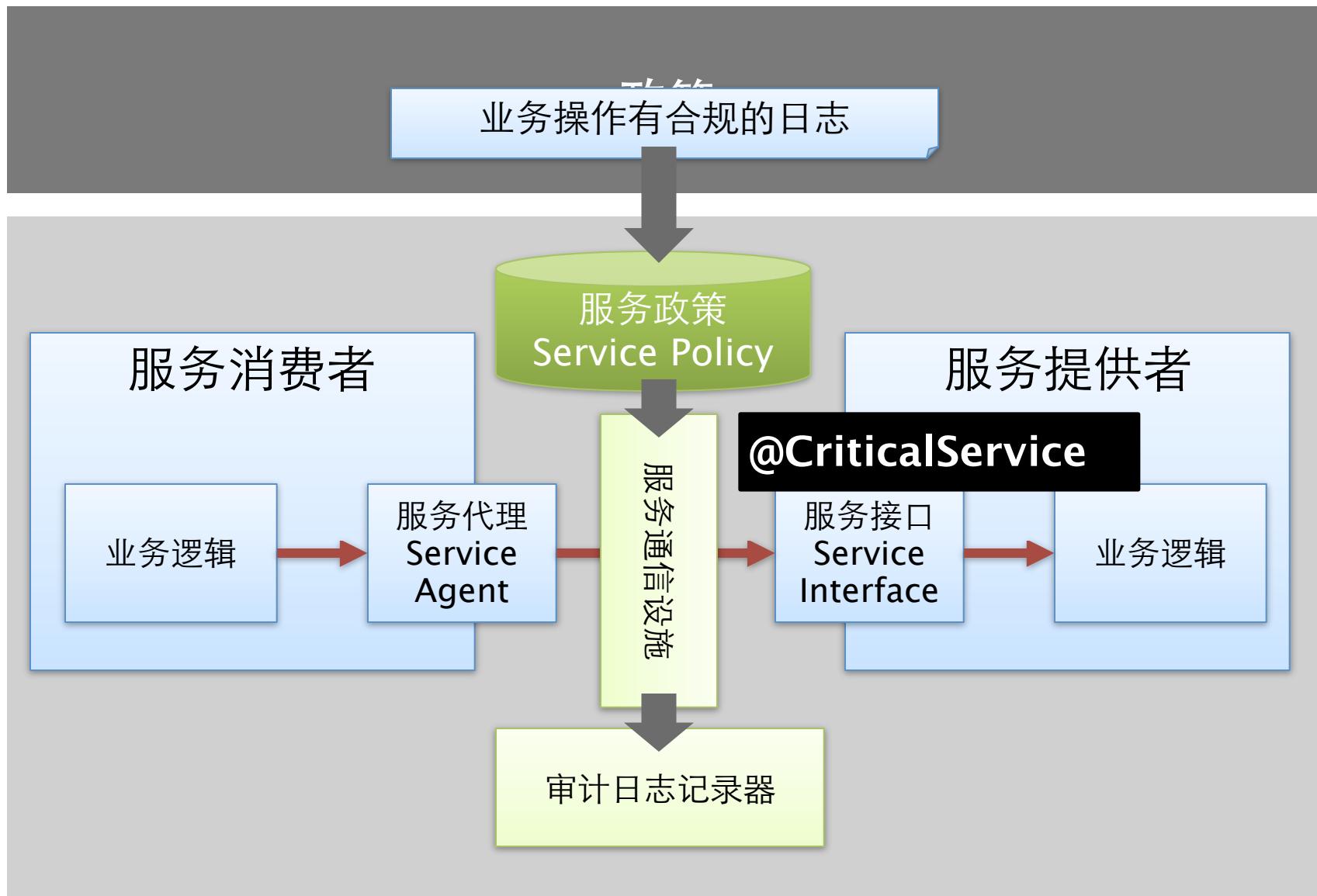
@CriticalService

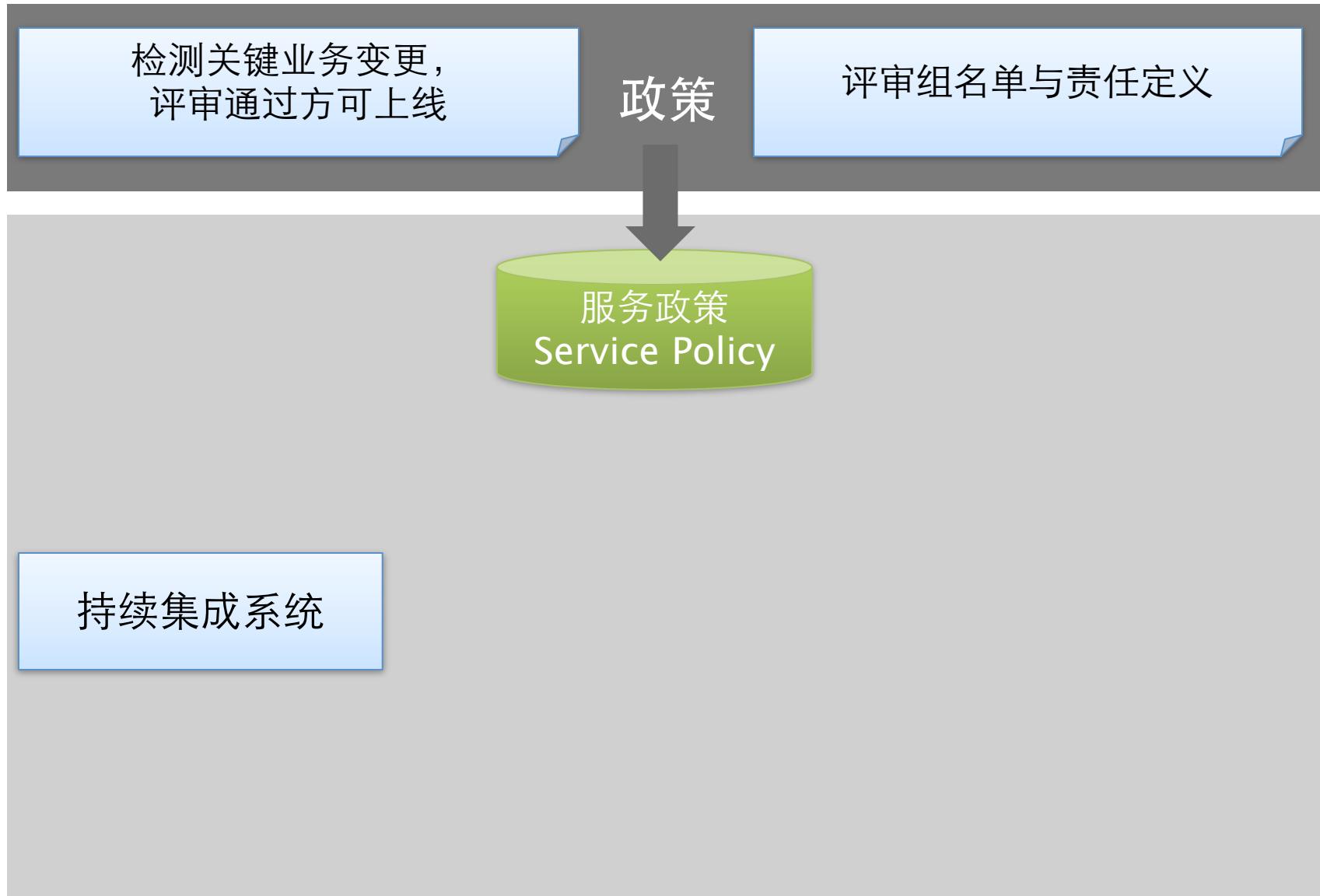
服务接口
Service Interface

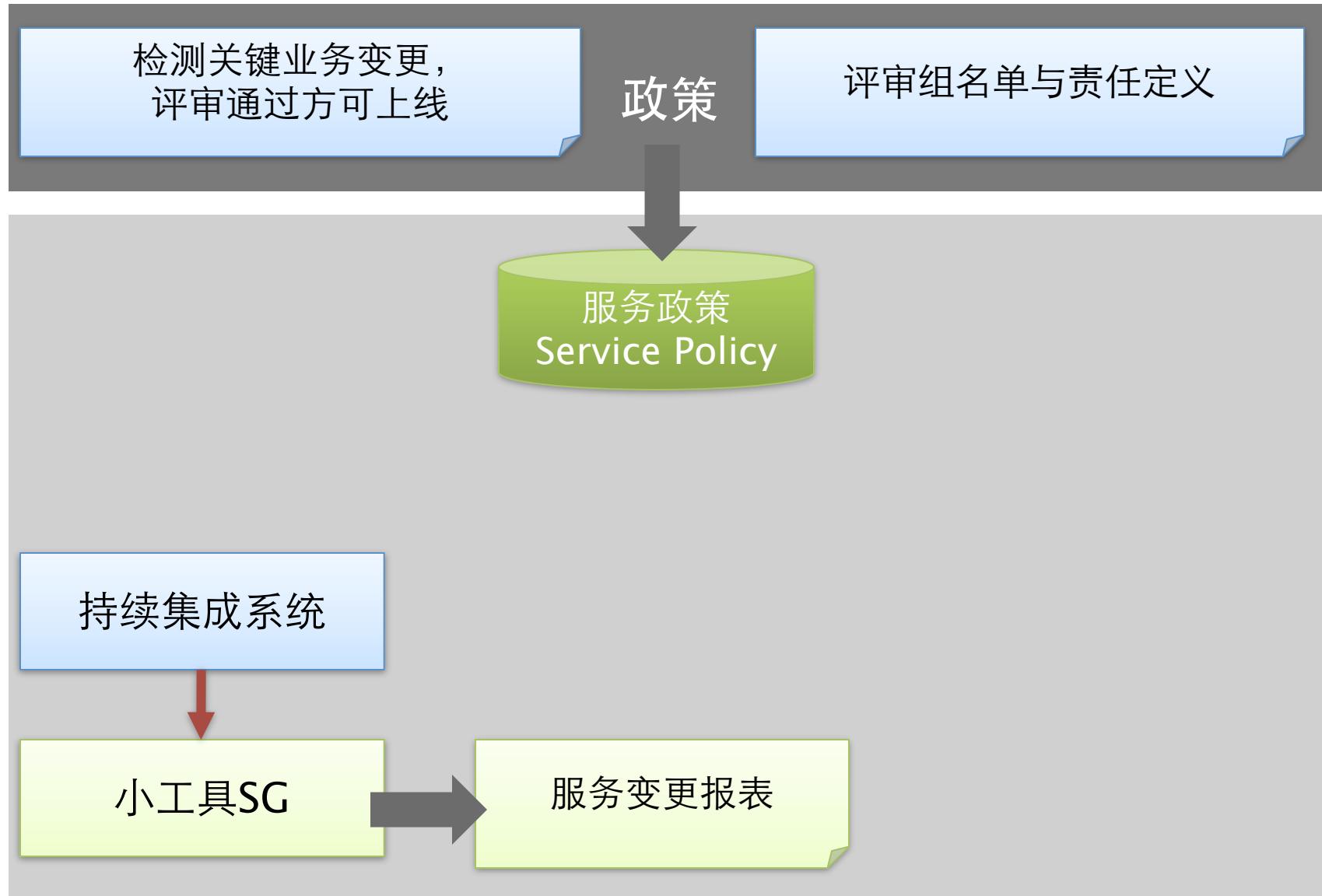
业务逻辑

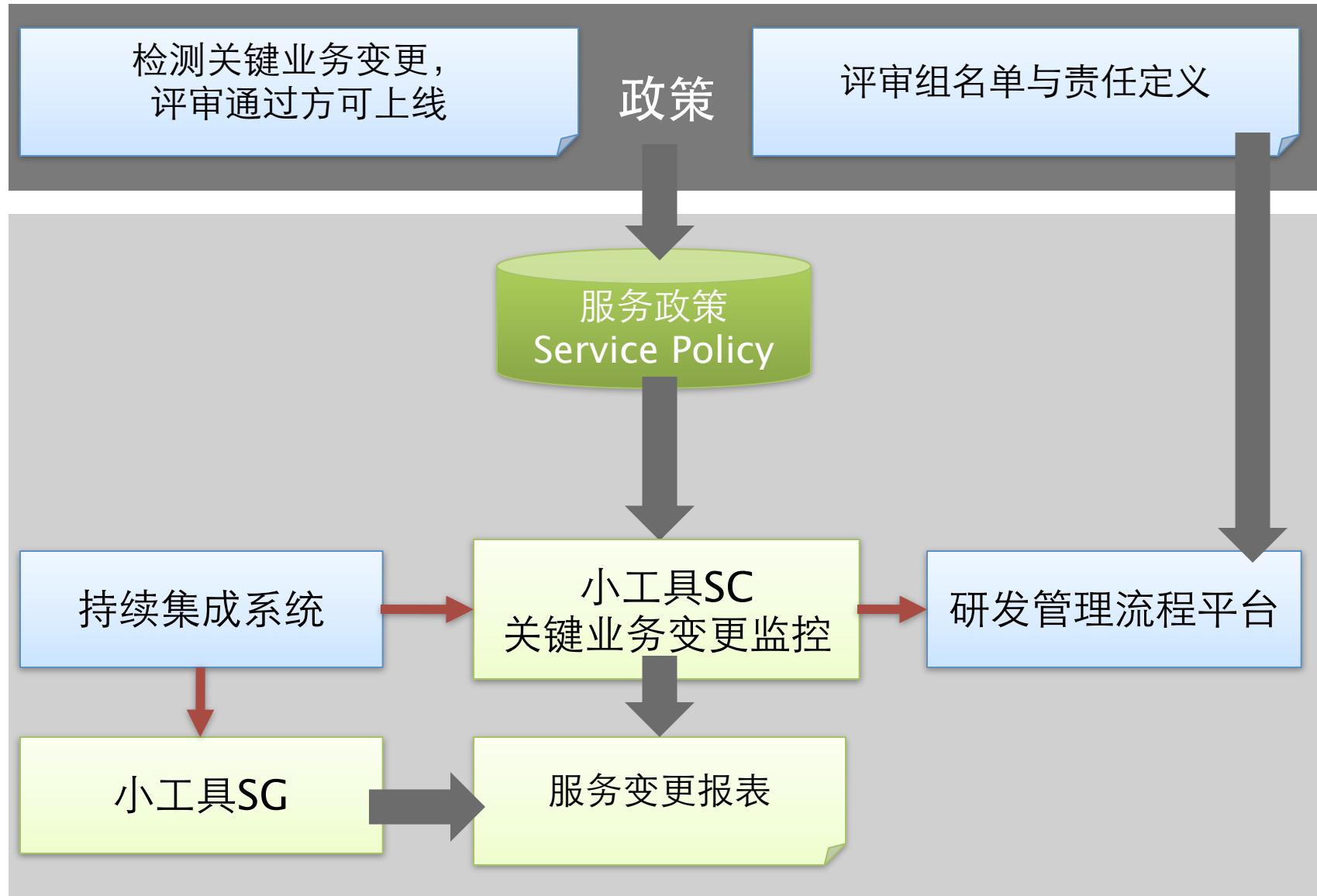


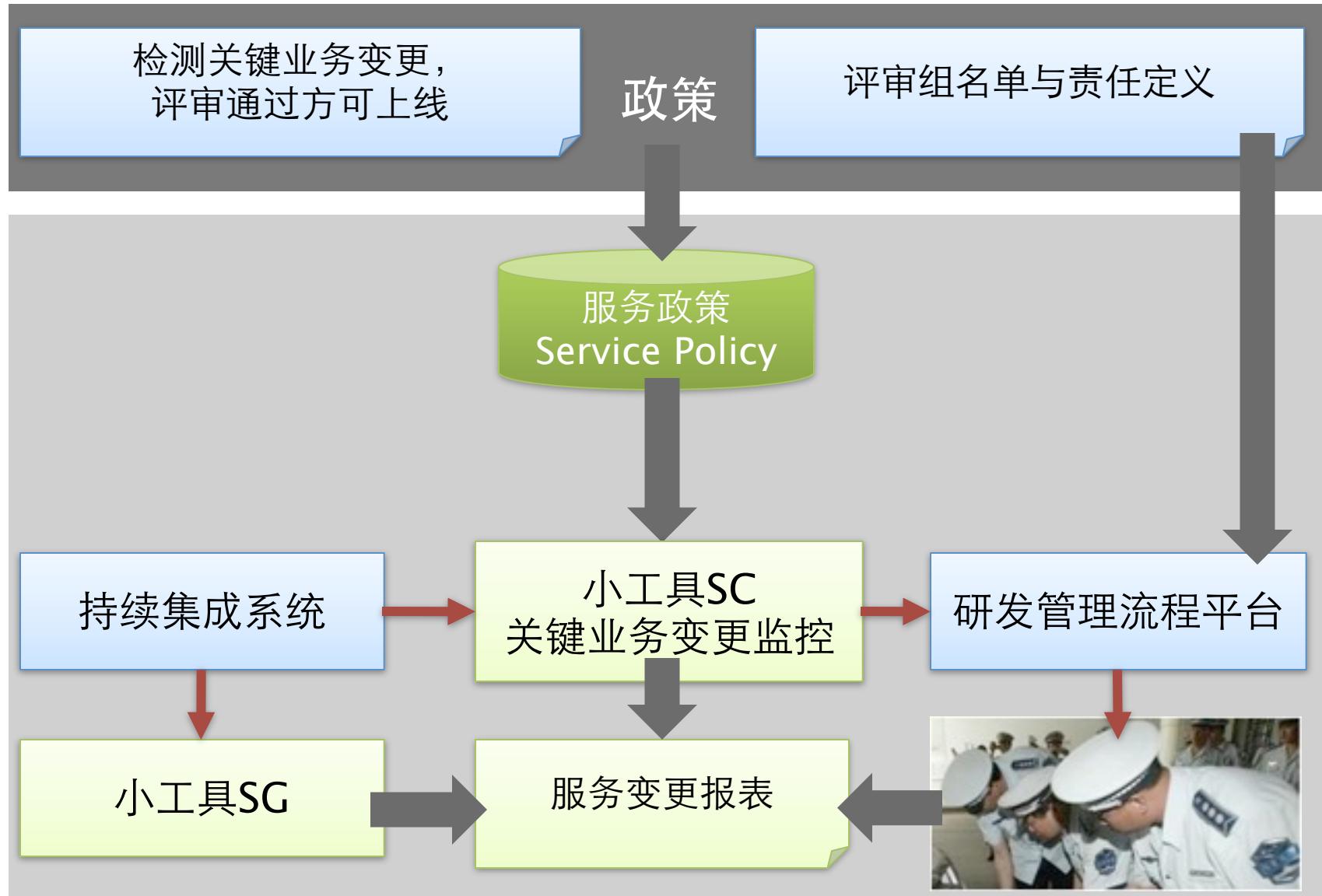




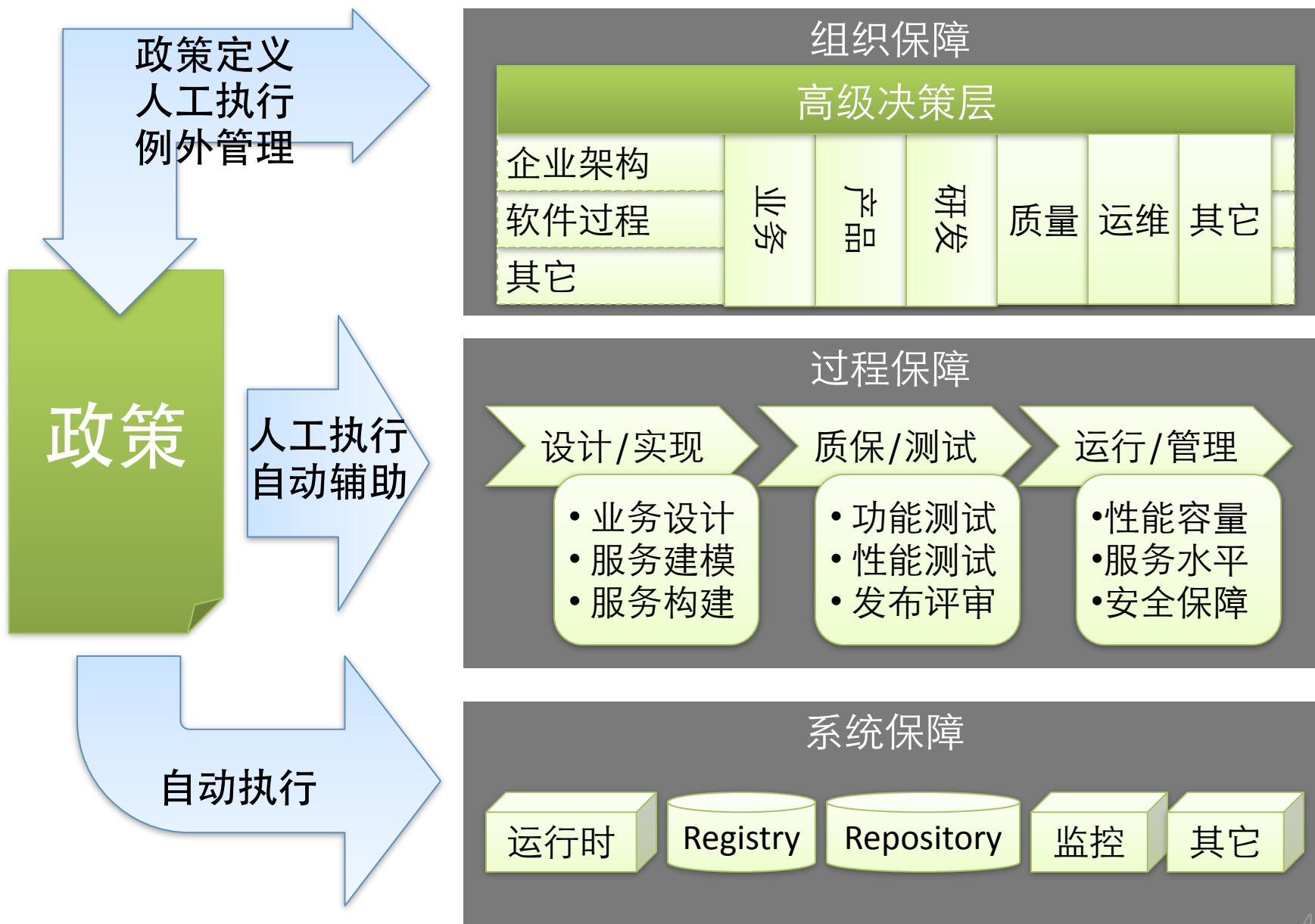






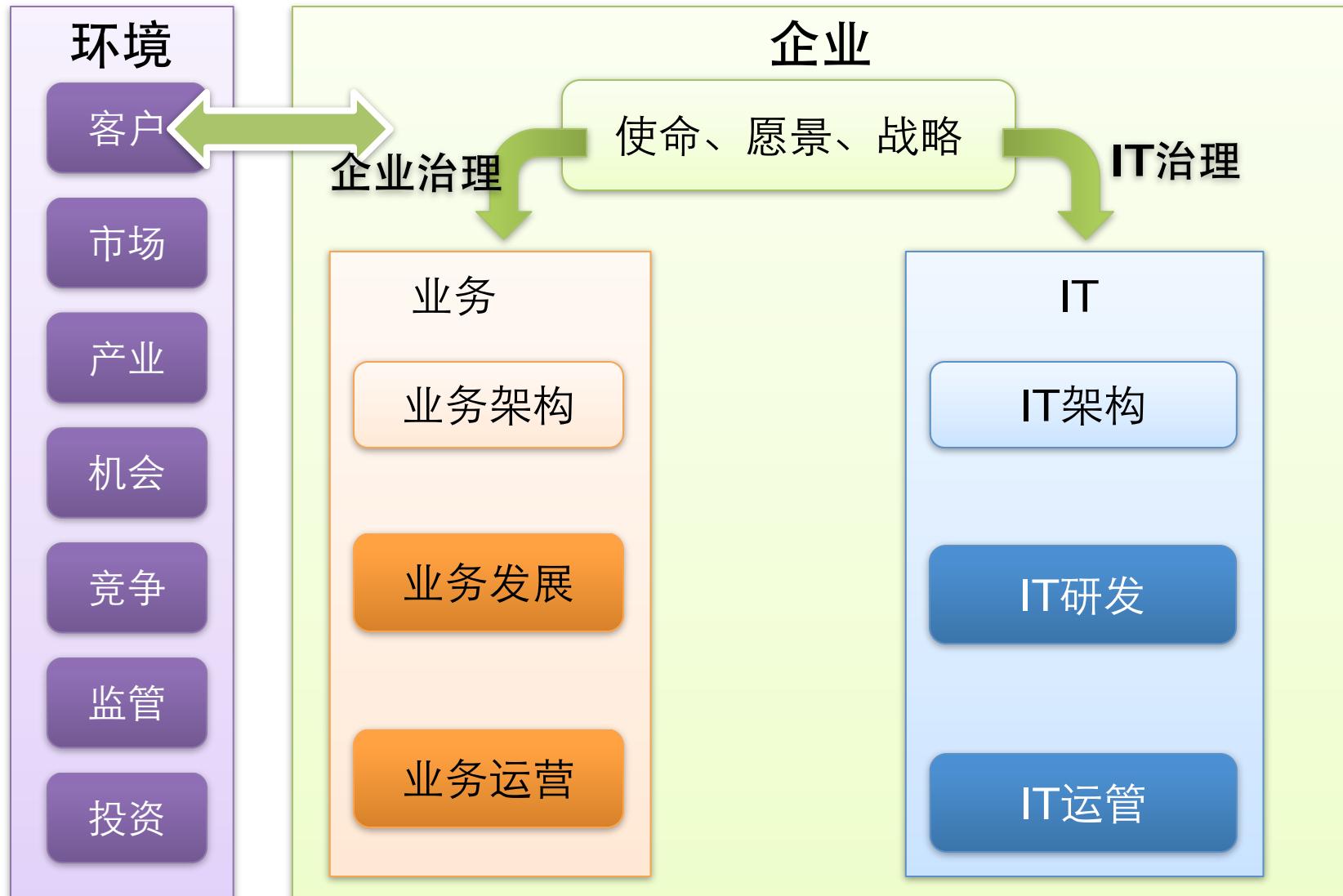


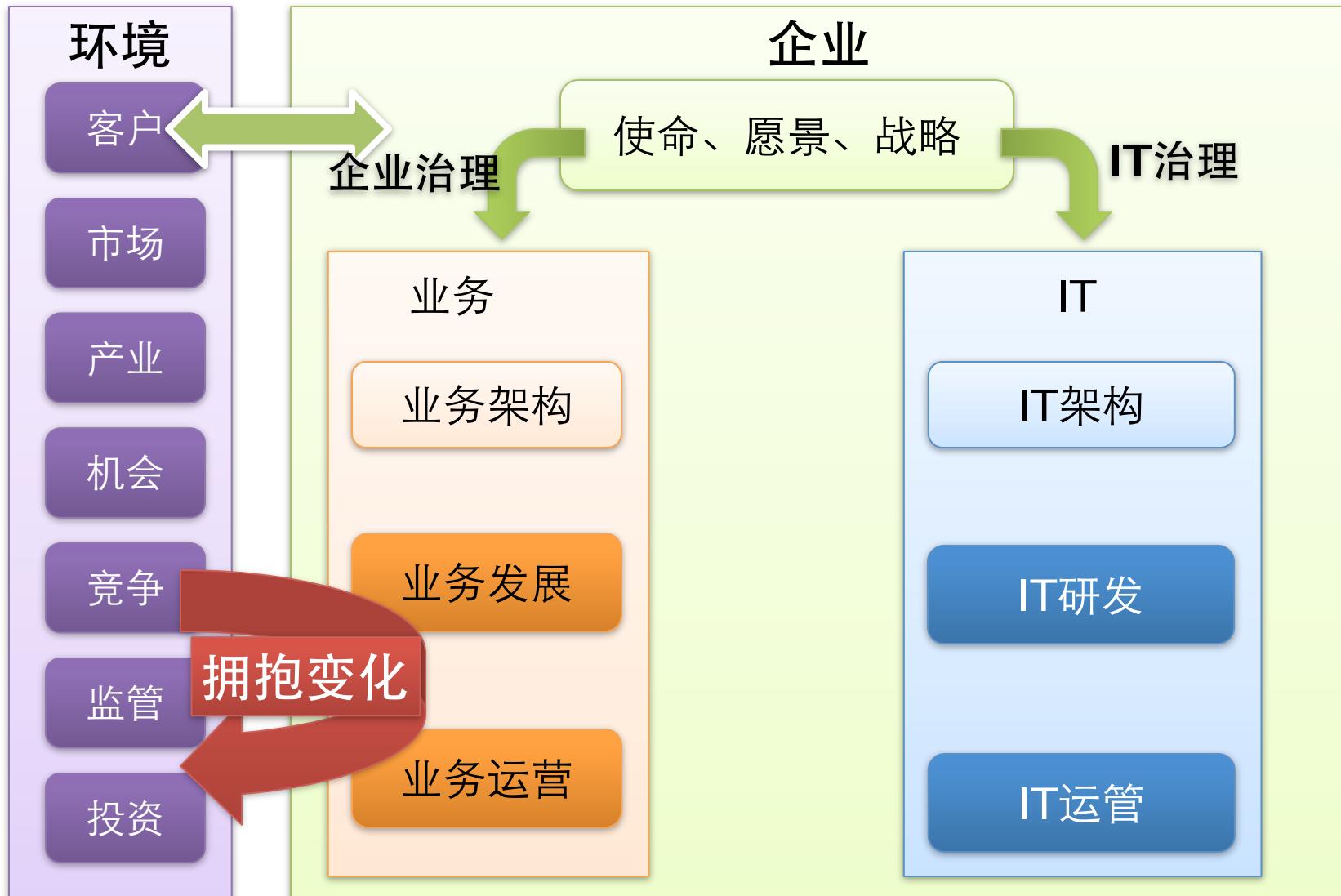
集成的政策执行模型

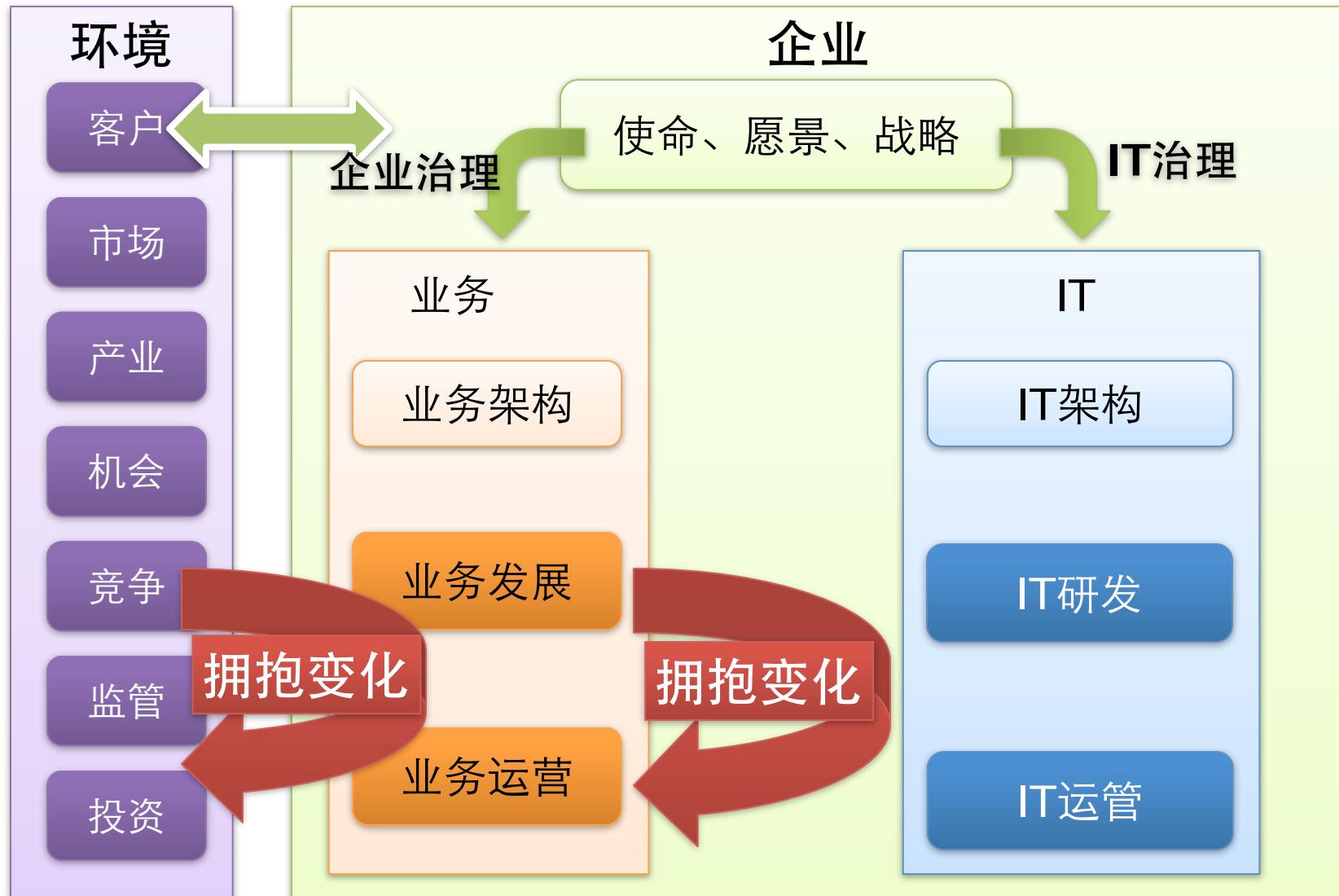


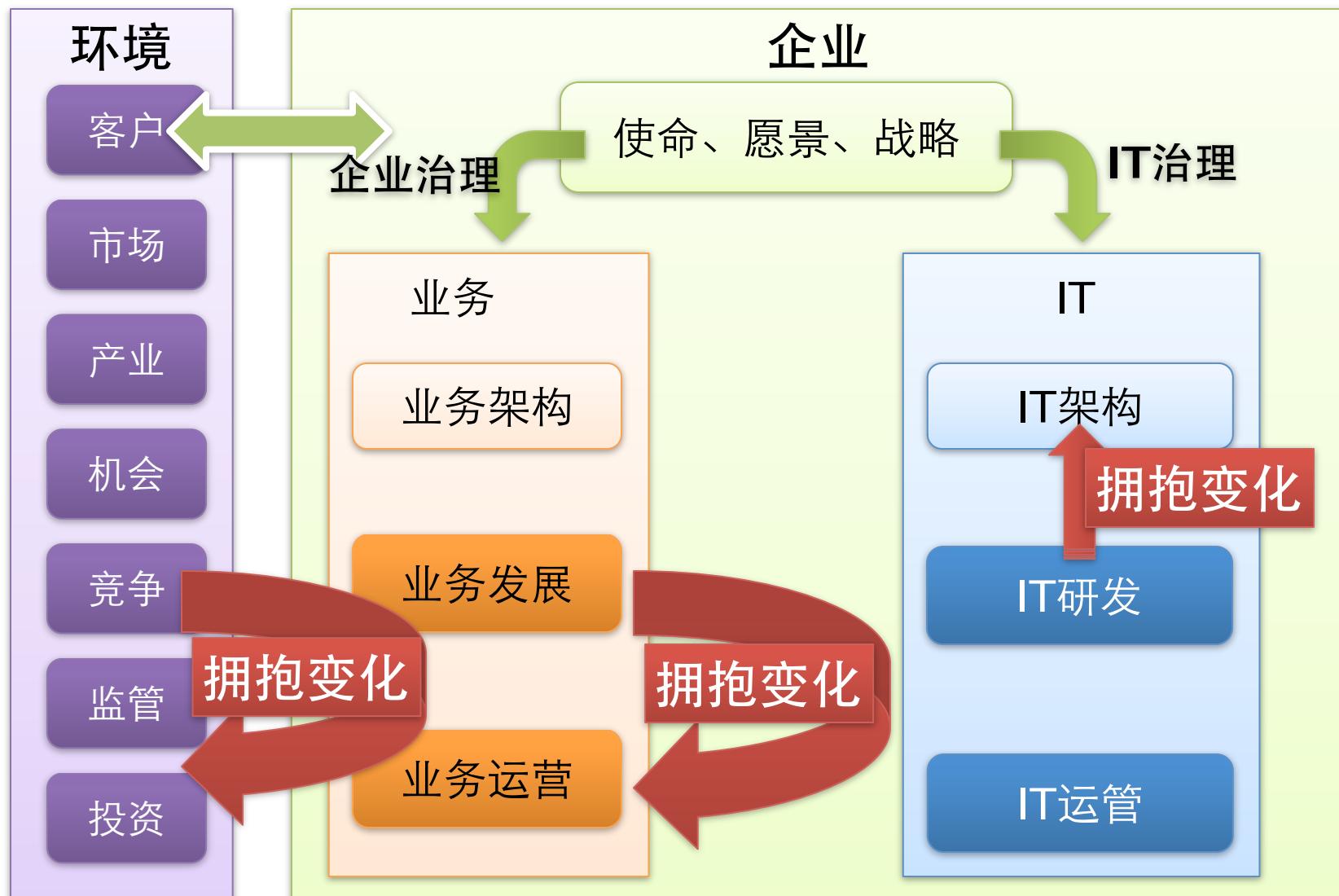


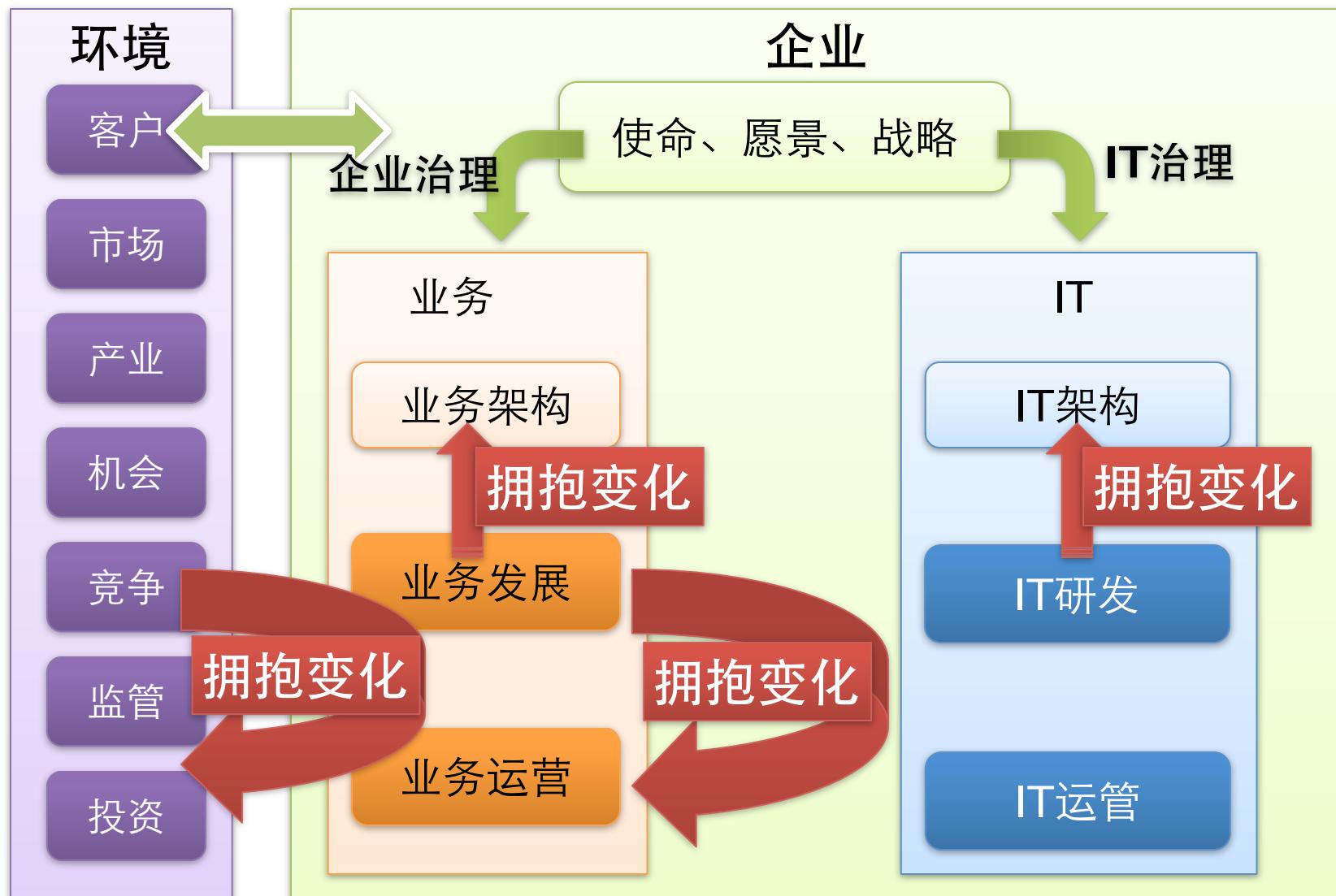
取得高速前进中的默契

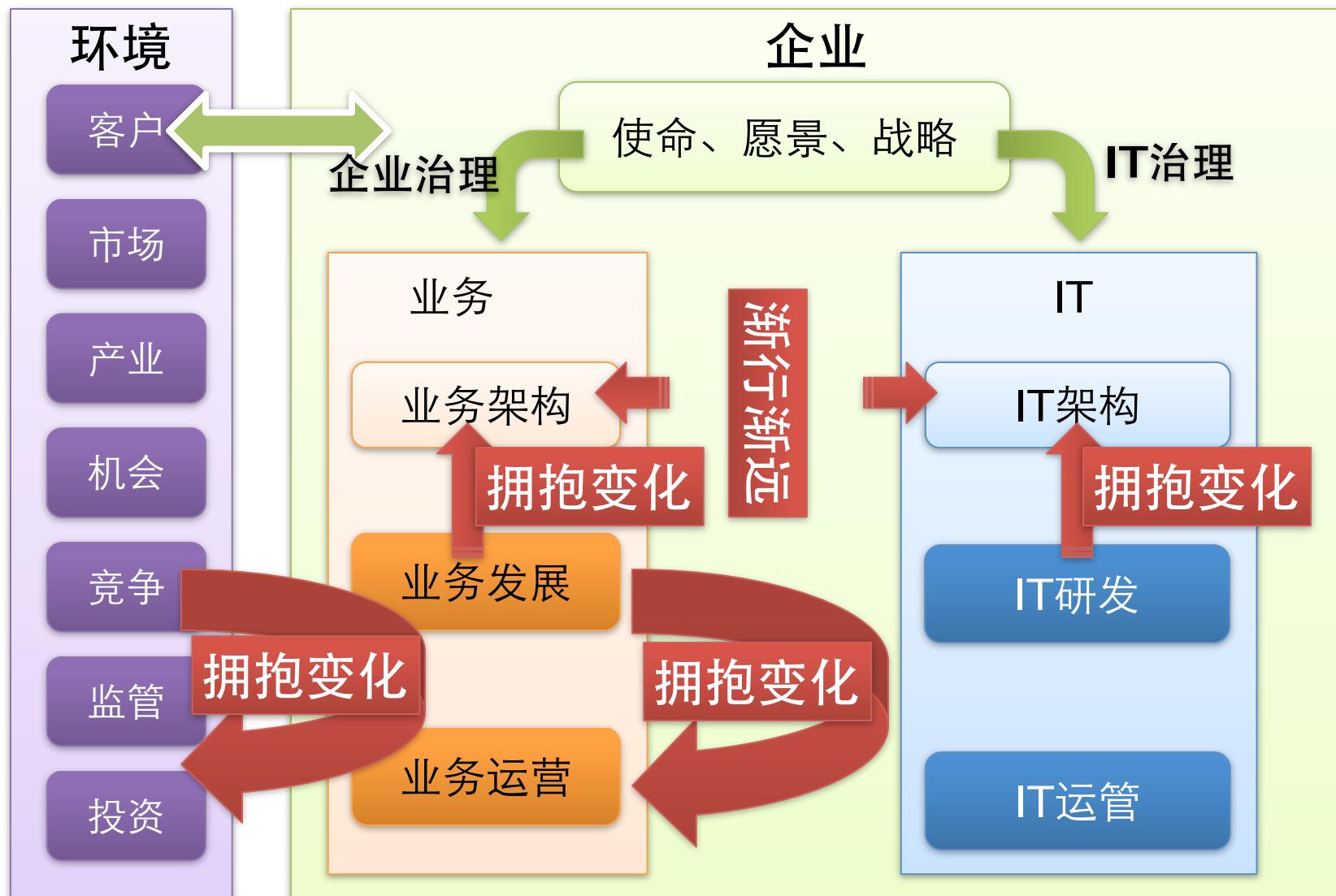












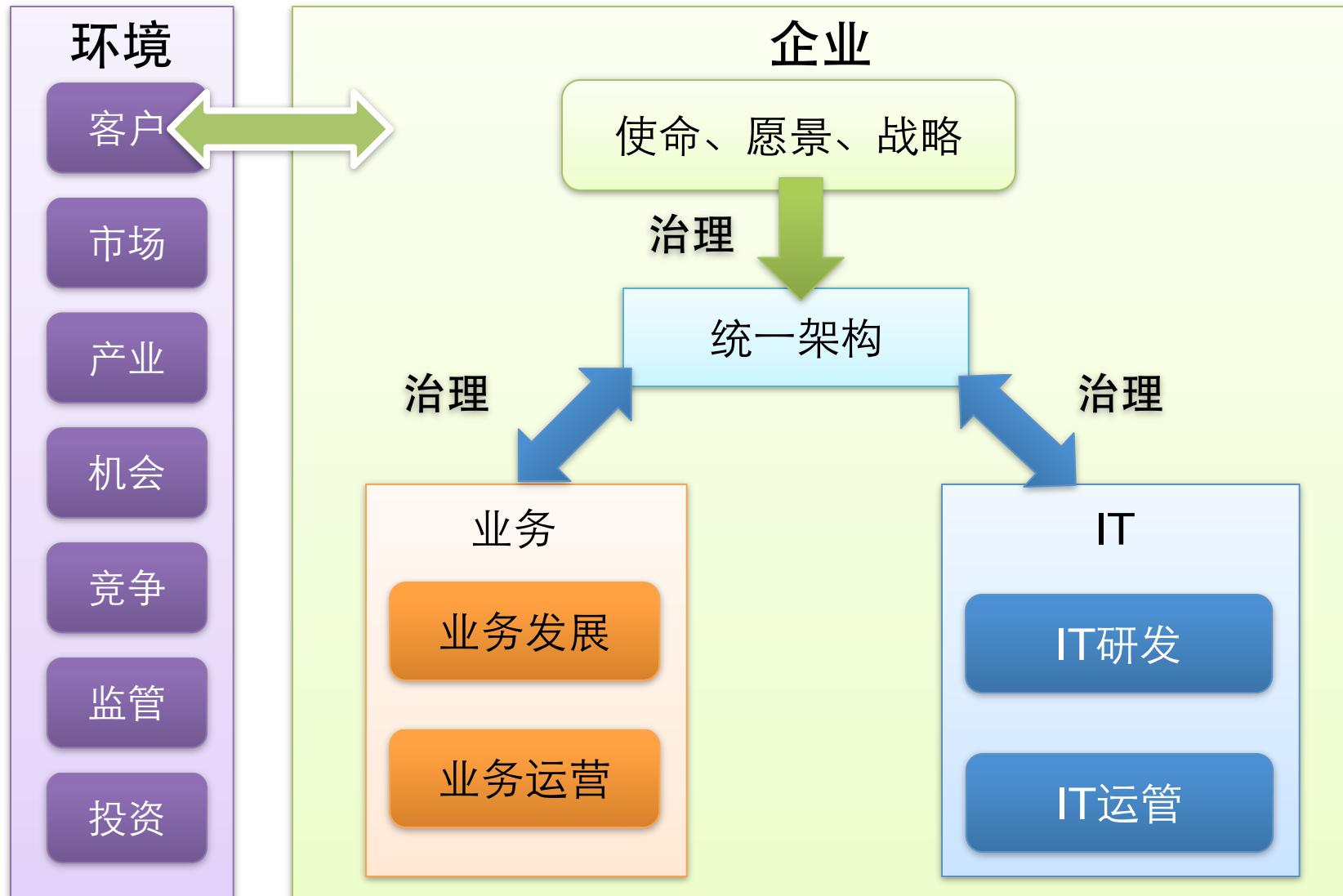
架构对齐 什么是对齐(Alignment)?

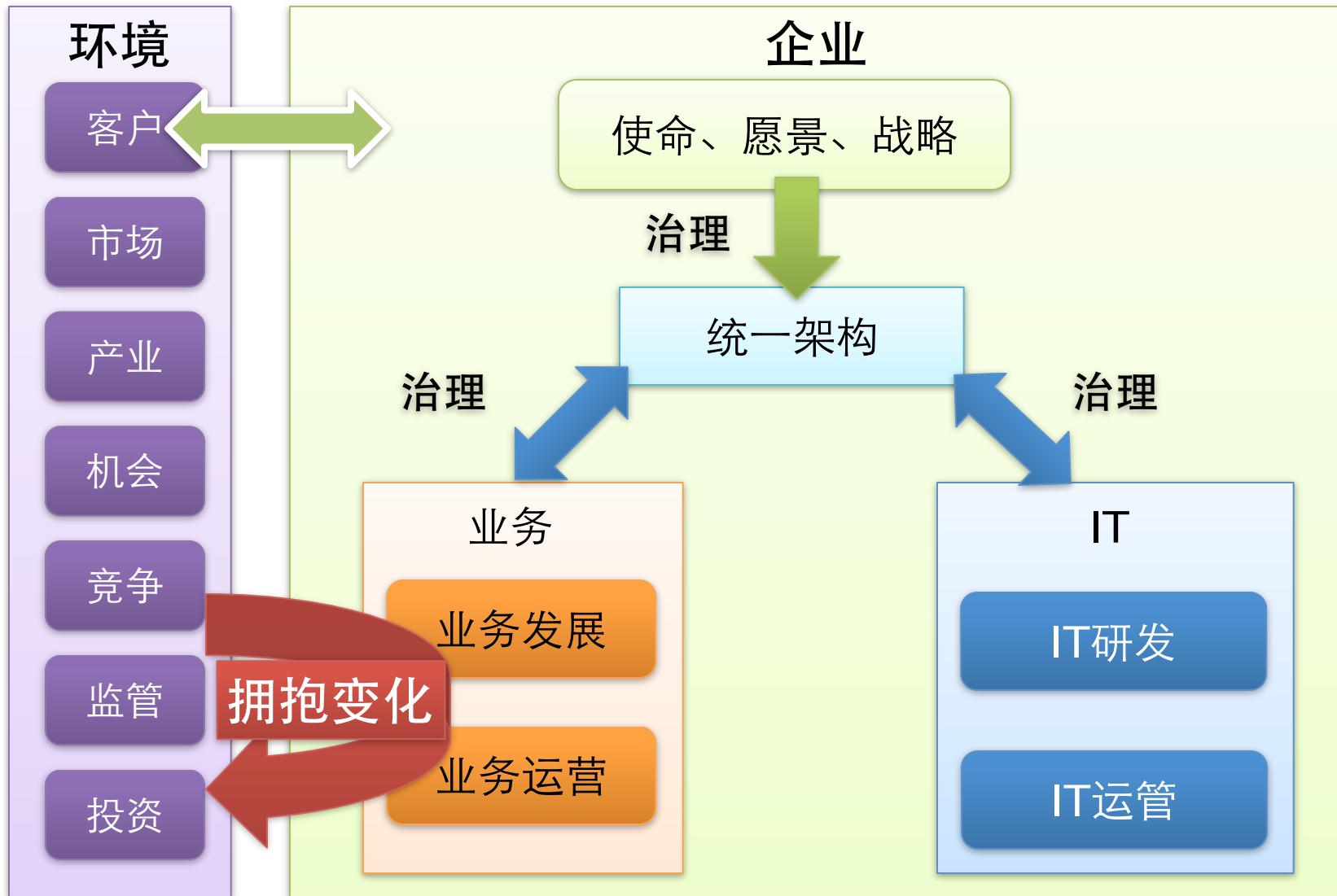
*I did not live until this time,
Crown'd my felicity,
When I could say without a crime,
I am not thine, but thee.*

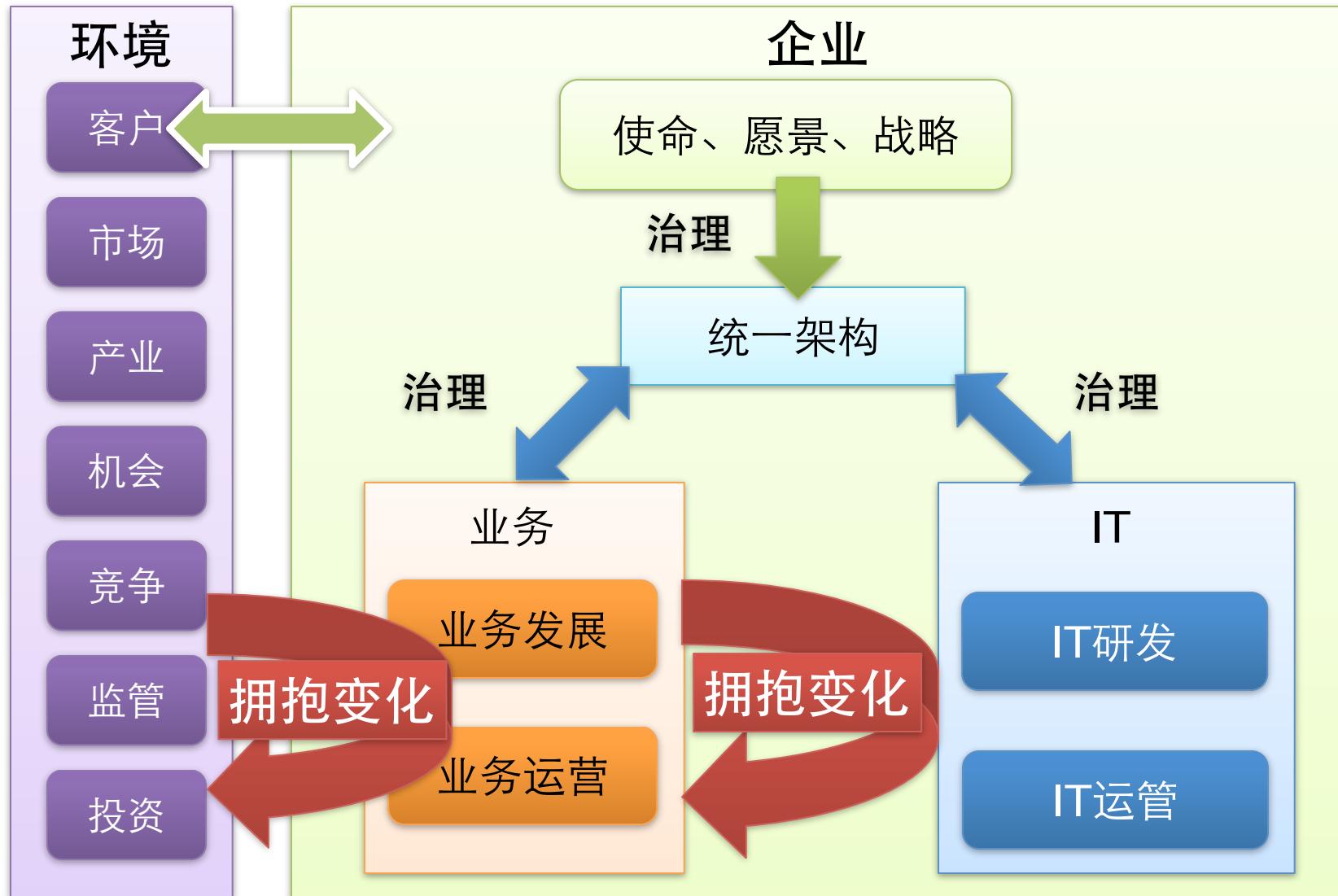
—— Katherine Philips
(17世纪英国女诗人)

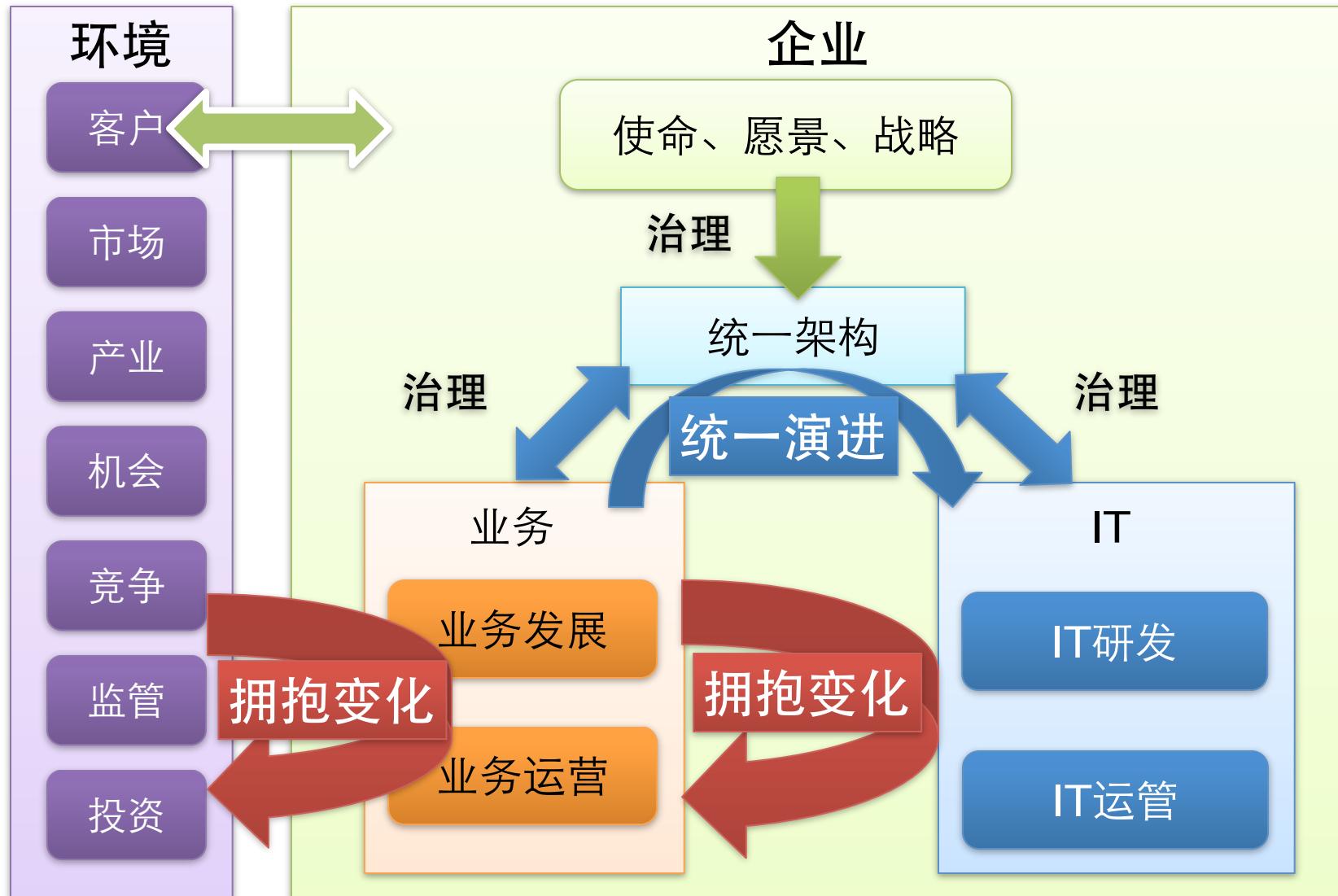
我直到现在才算真正活着，
我的快乐得到了加冕，
我可以无愧地说，
我不是你的， 我就是你。

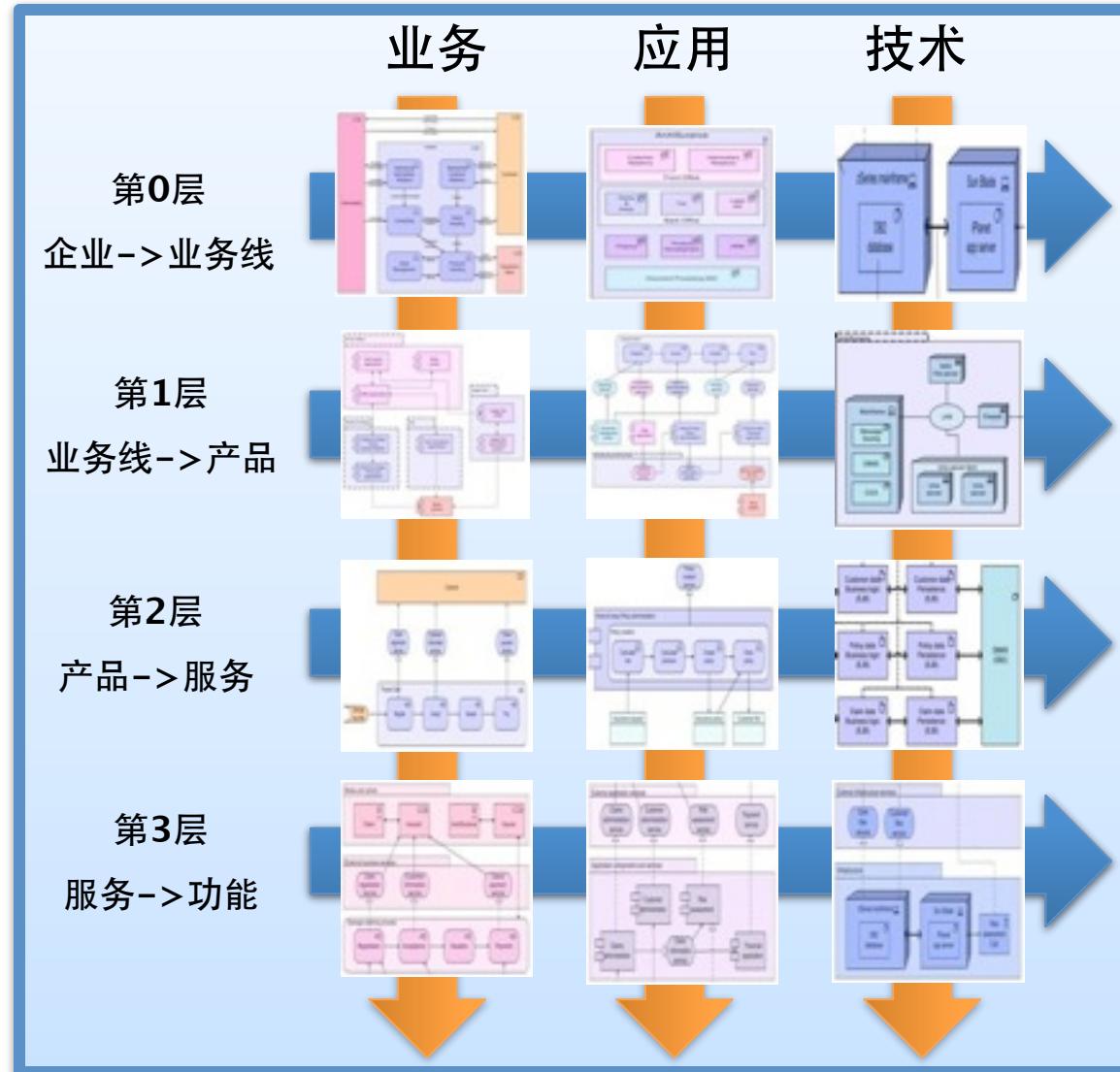
—— 某网友译











Archimate

... is an open and independent modeling language for enterprise architecture... is one of the open standards hosted by the Open Group and based on the IEEE 1471 standard... distinguishes itself from other languages such as UML and BPMN by its well defined metamodel, and wider enterprise modelling scope.

— Wikipedia

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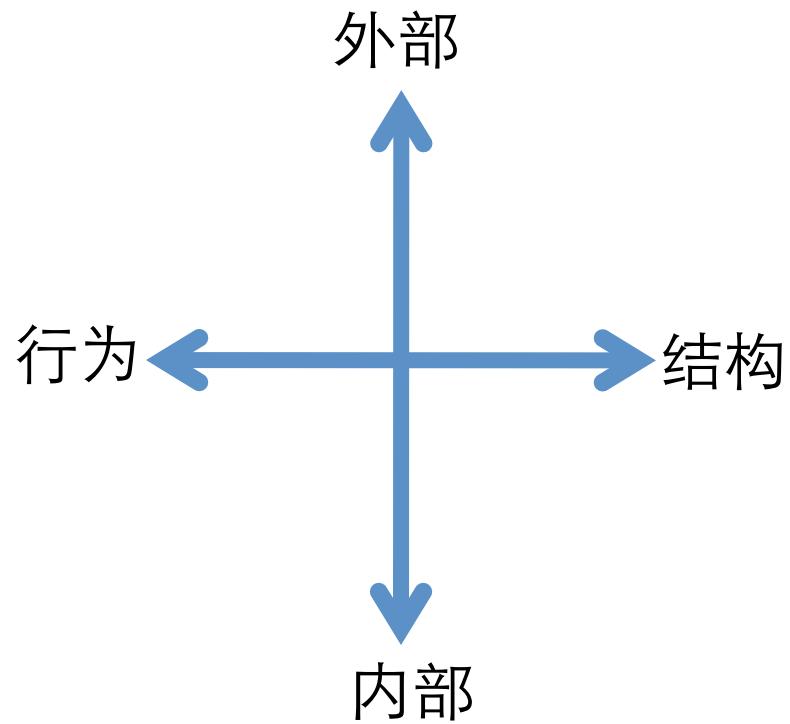
— Wikipedia

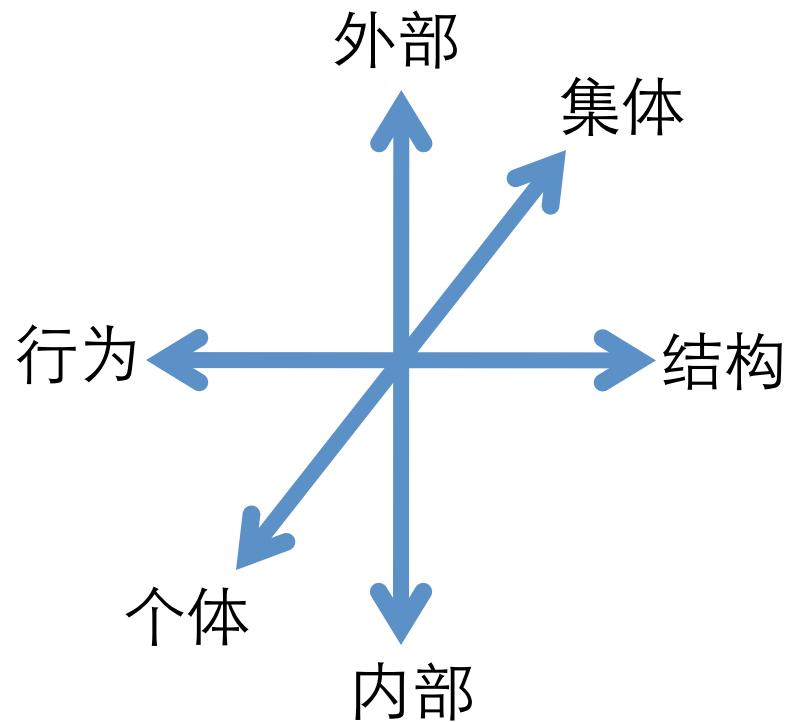
Archimate

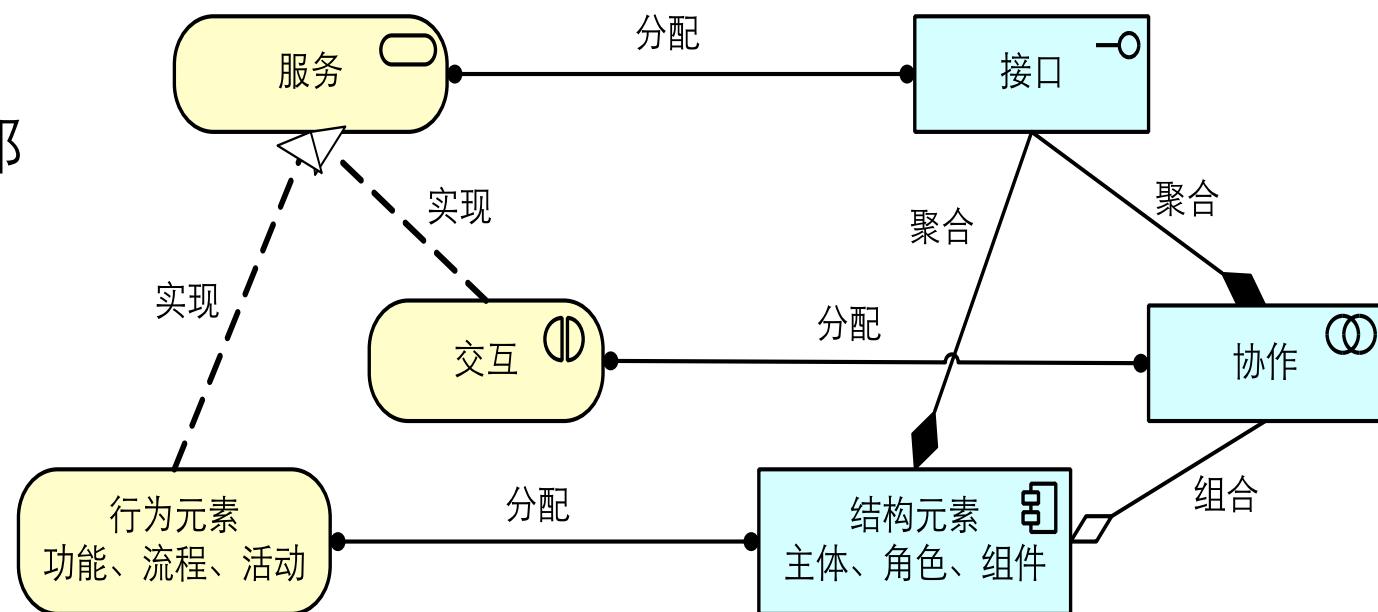
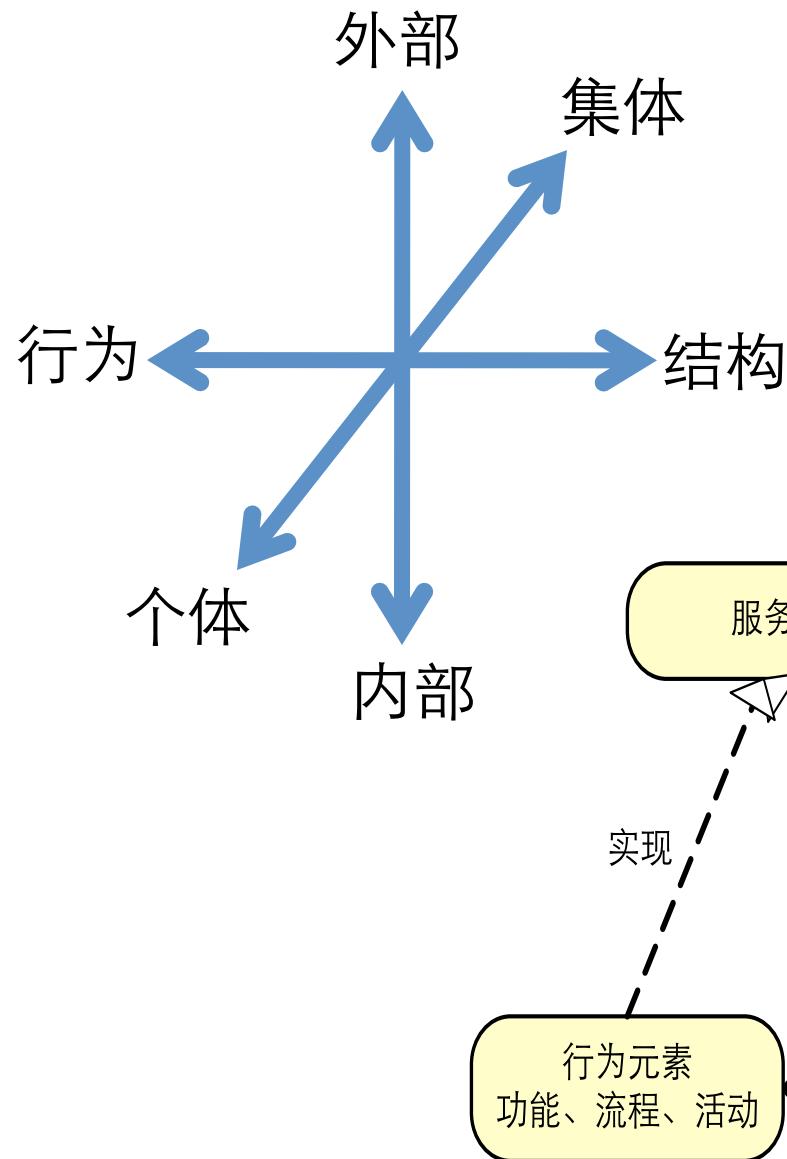
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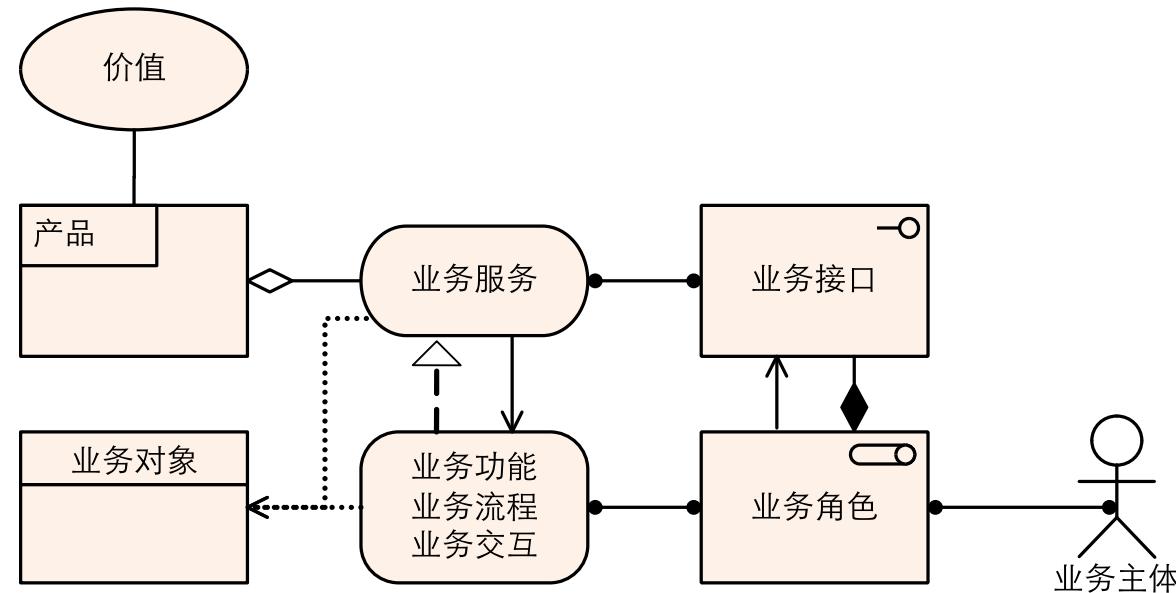
— Wikipedia

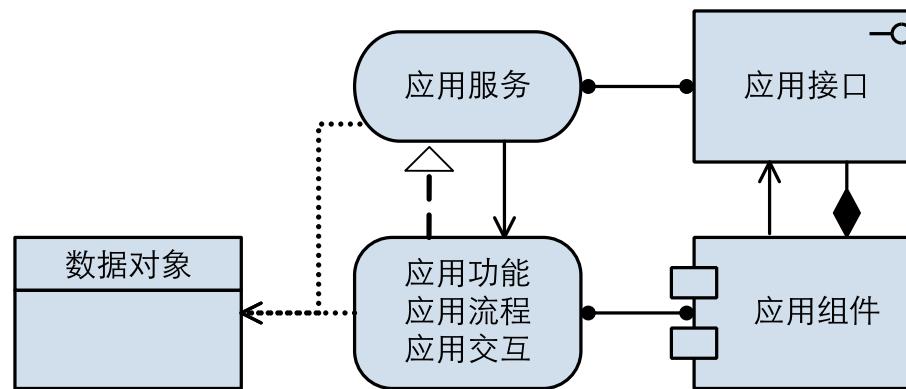
行为  结构

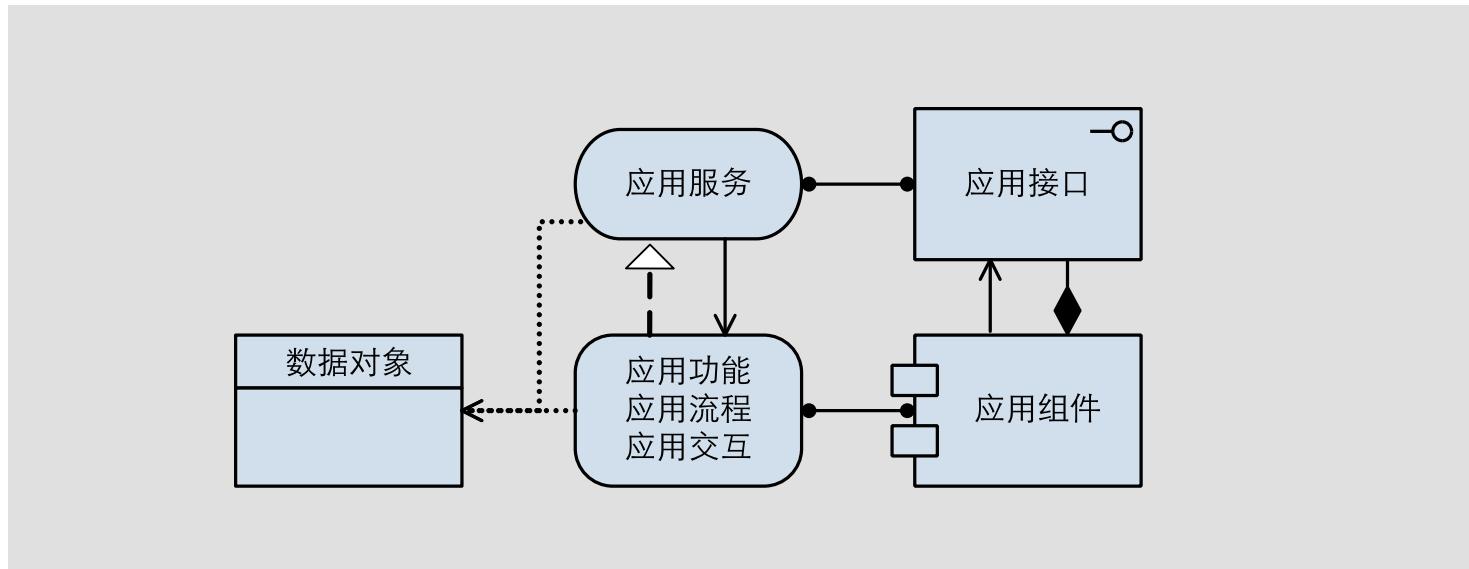
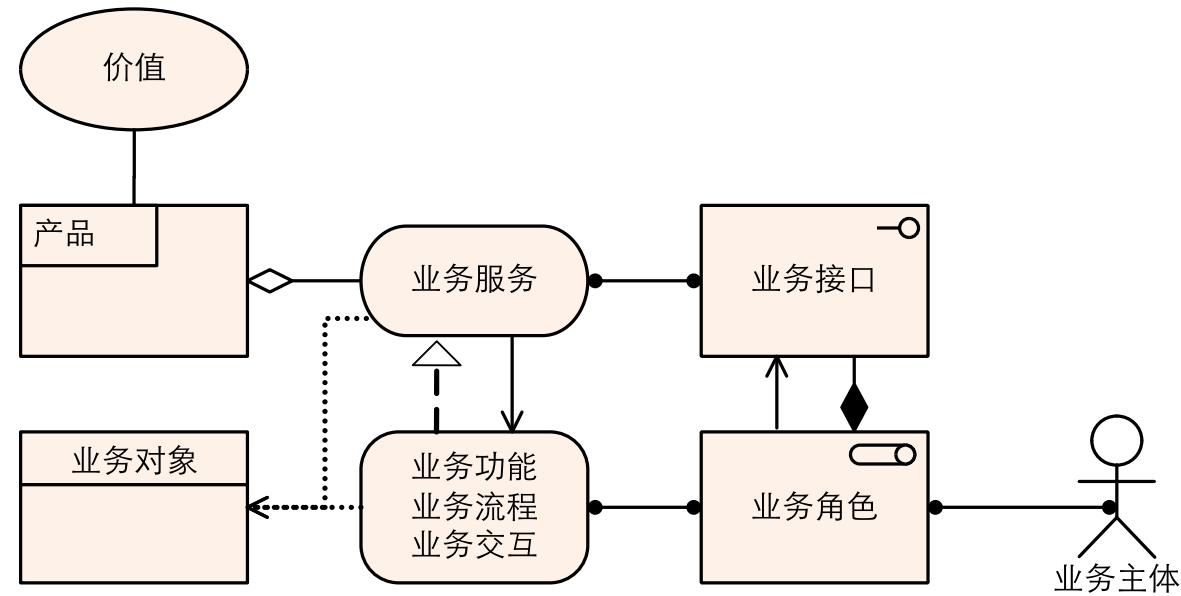


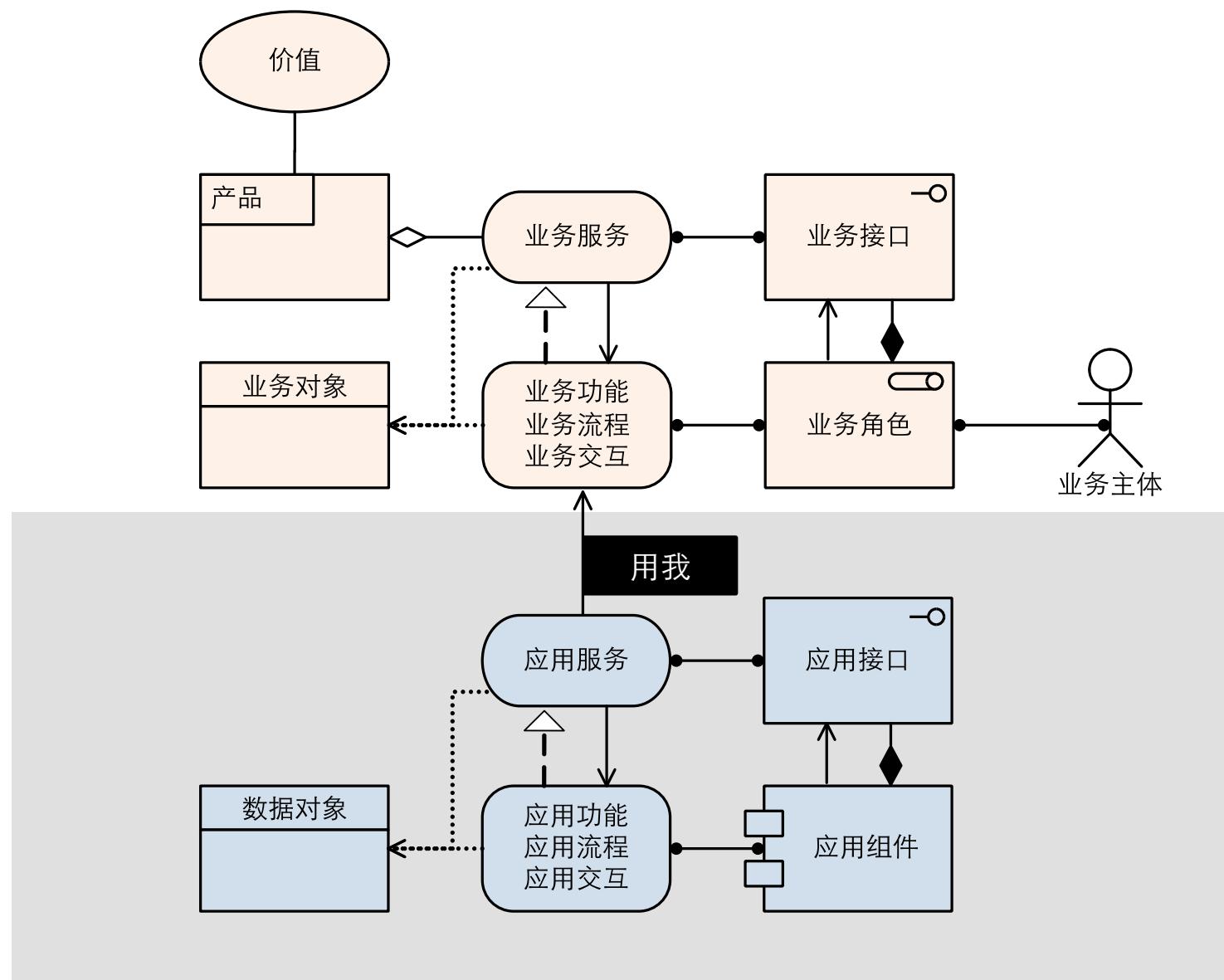


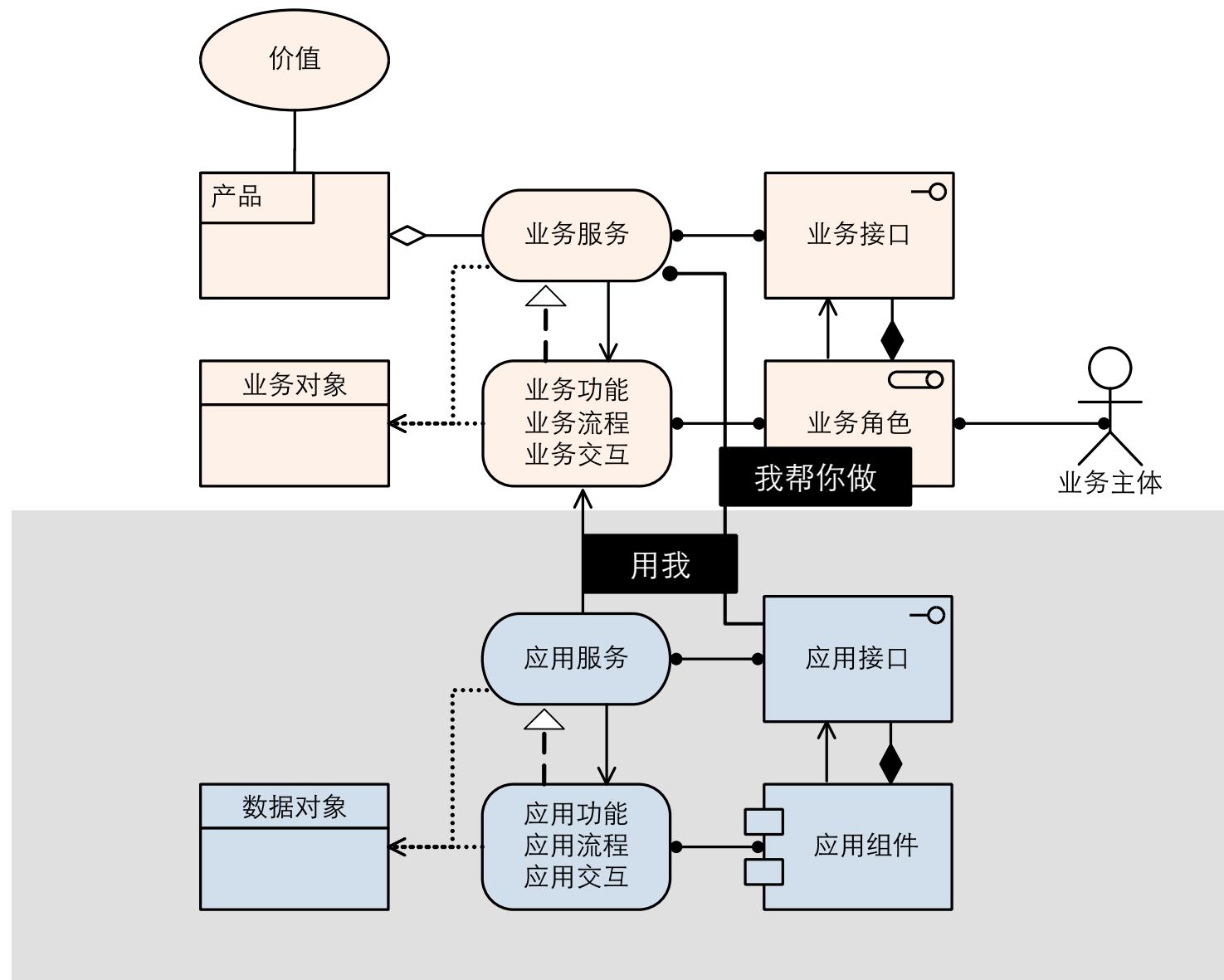


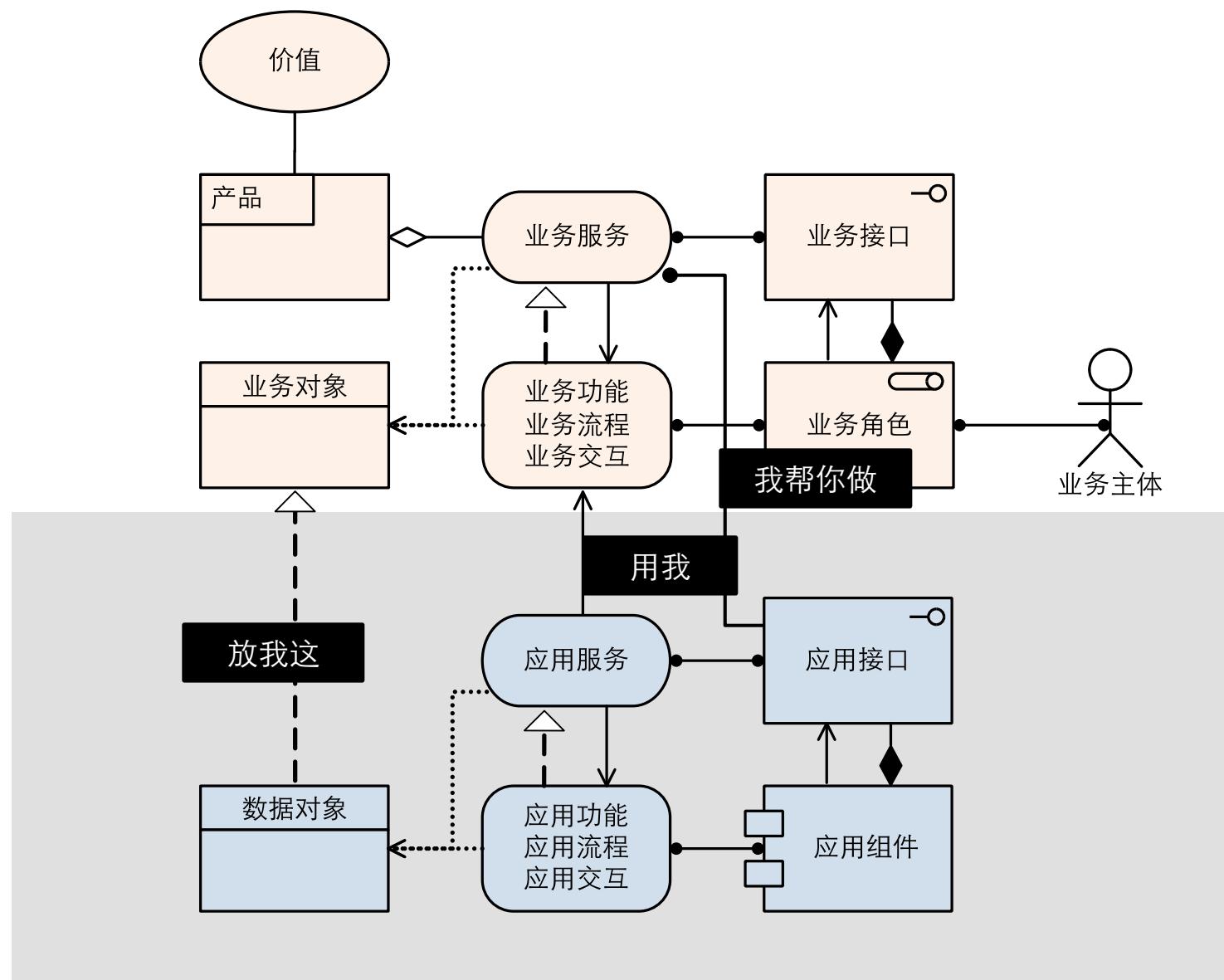


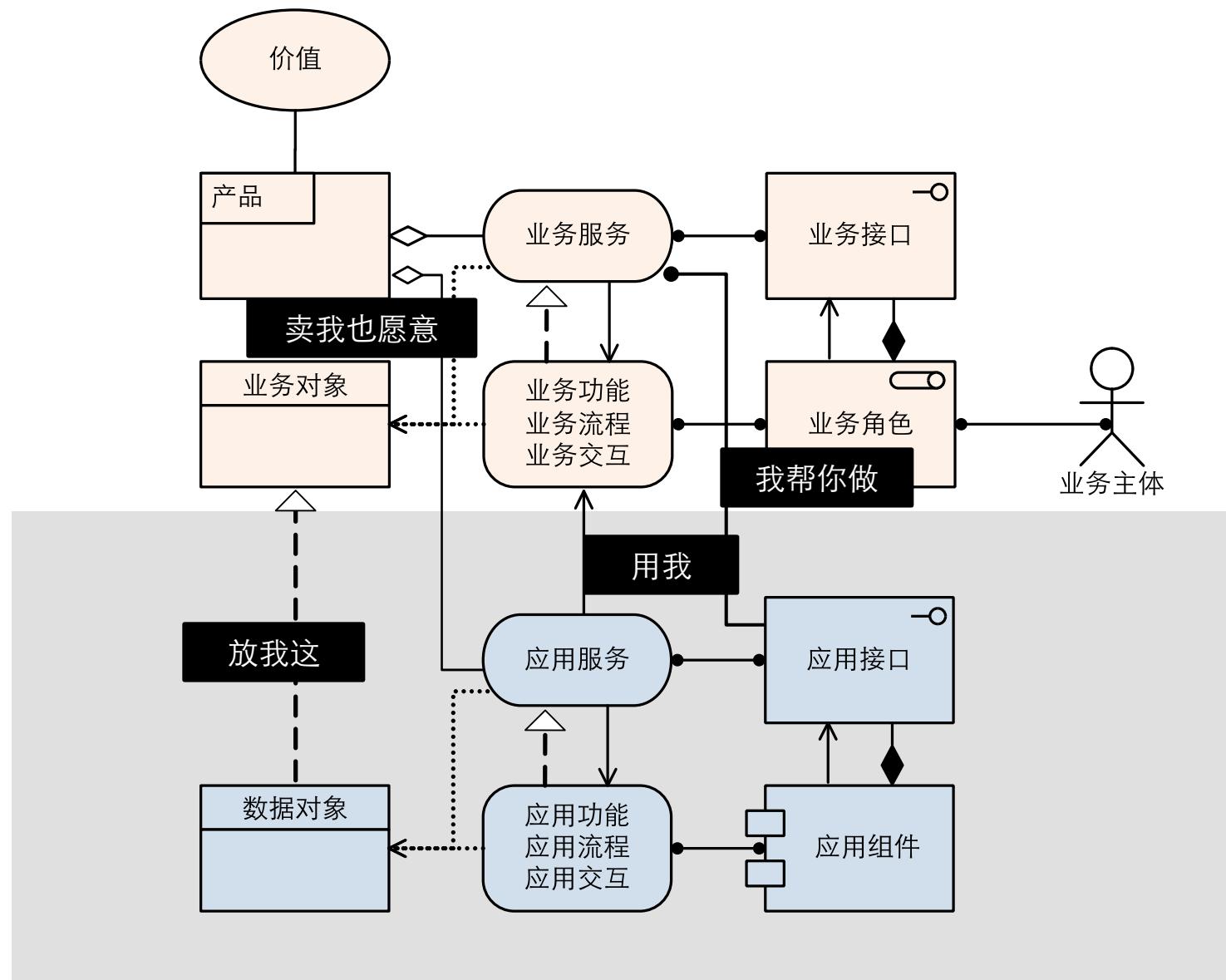


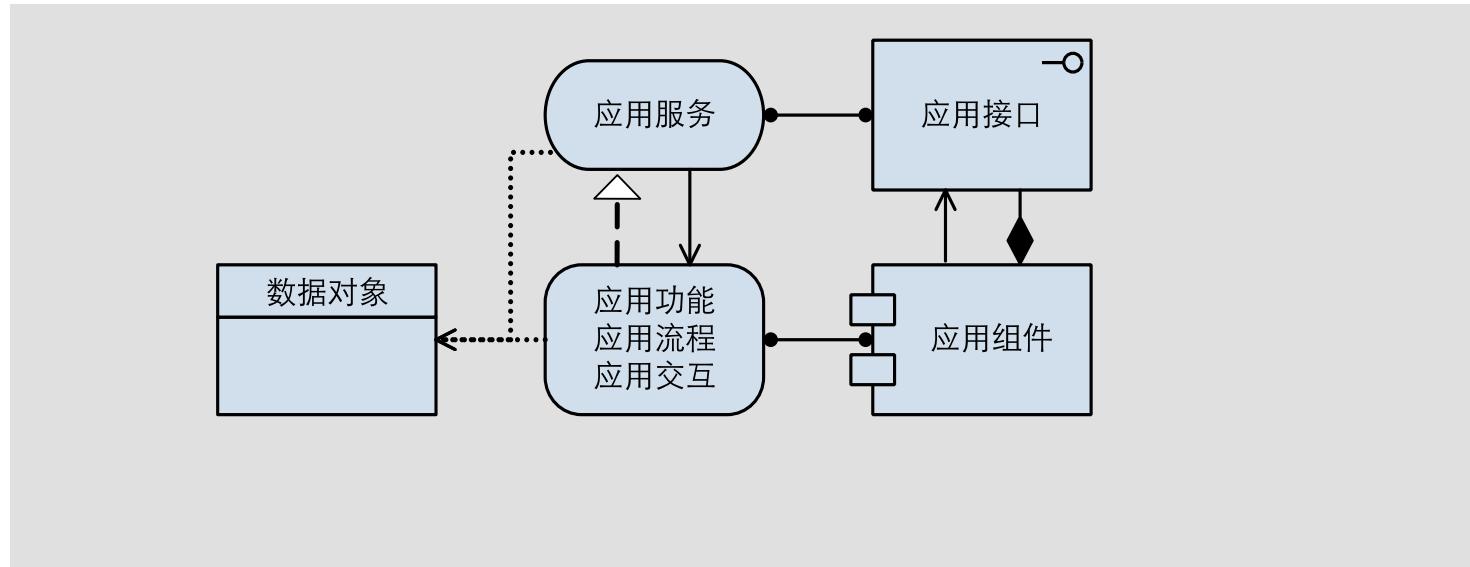
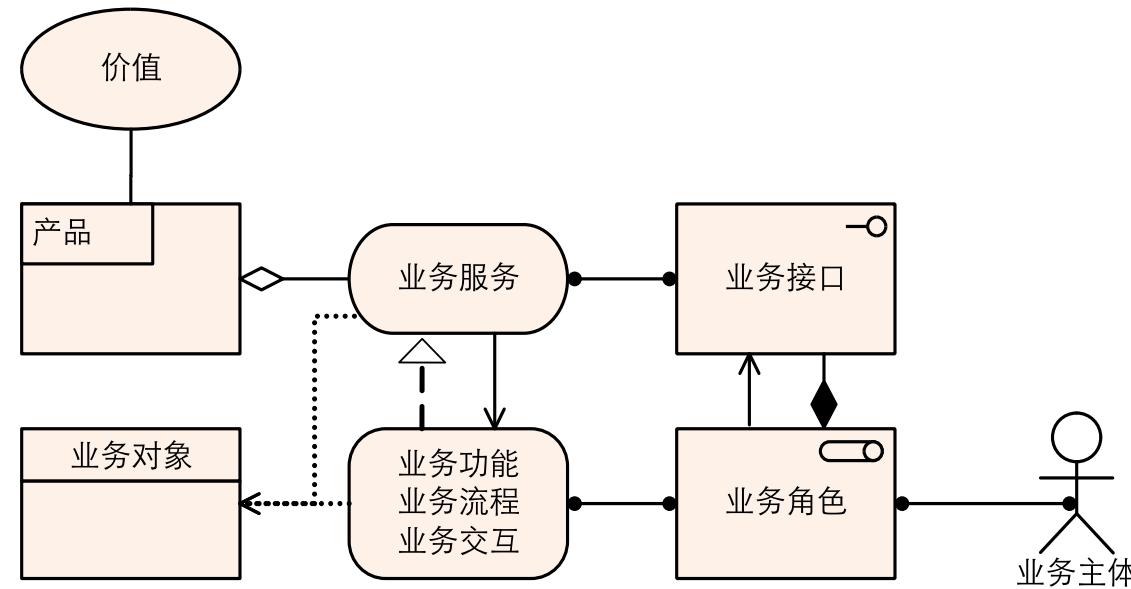


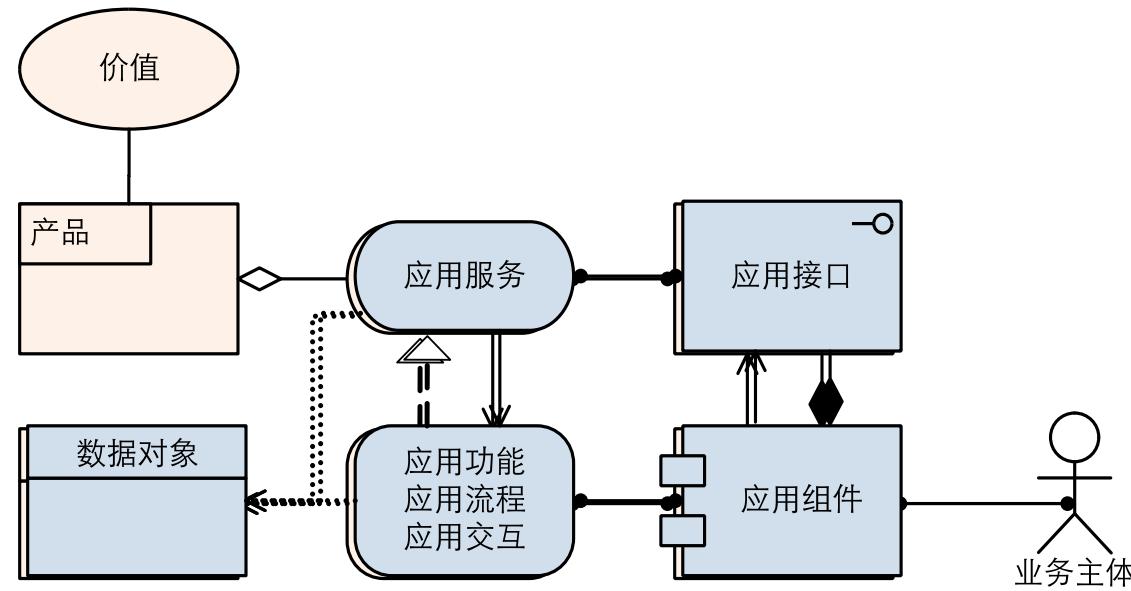


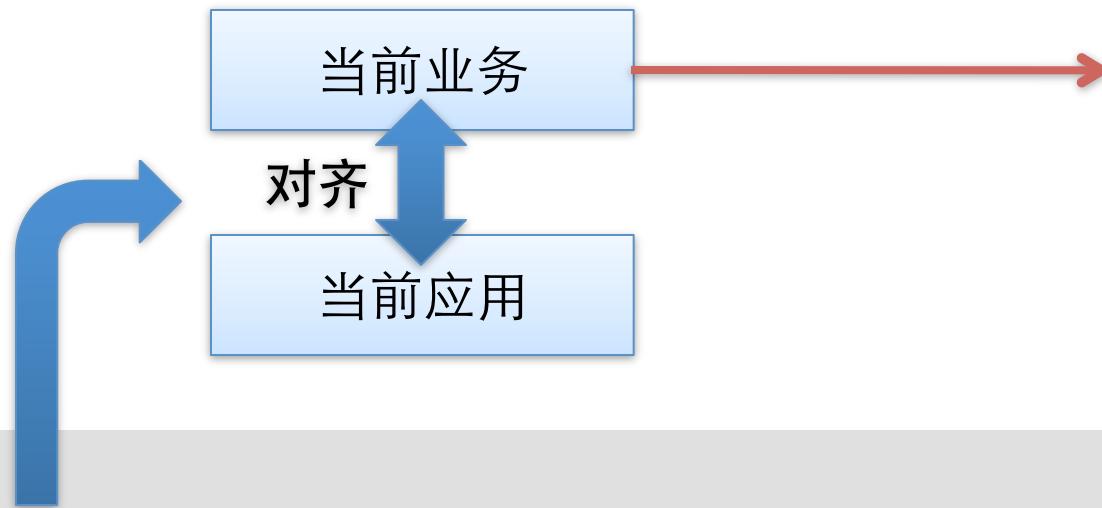






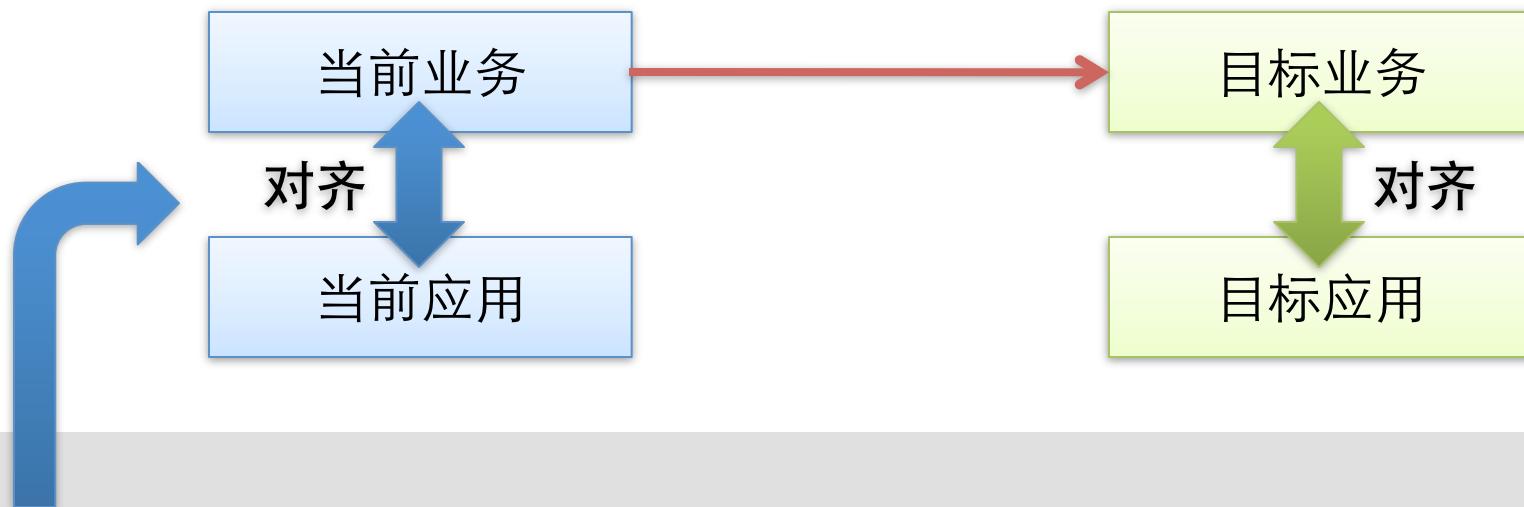






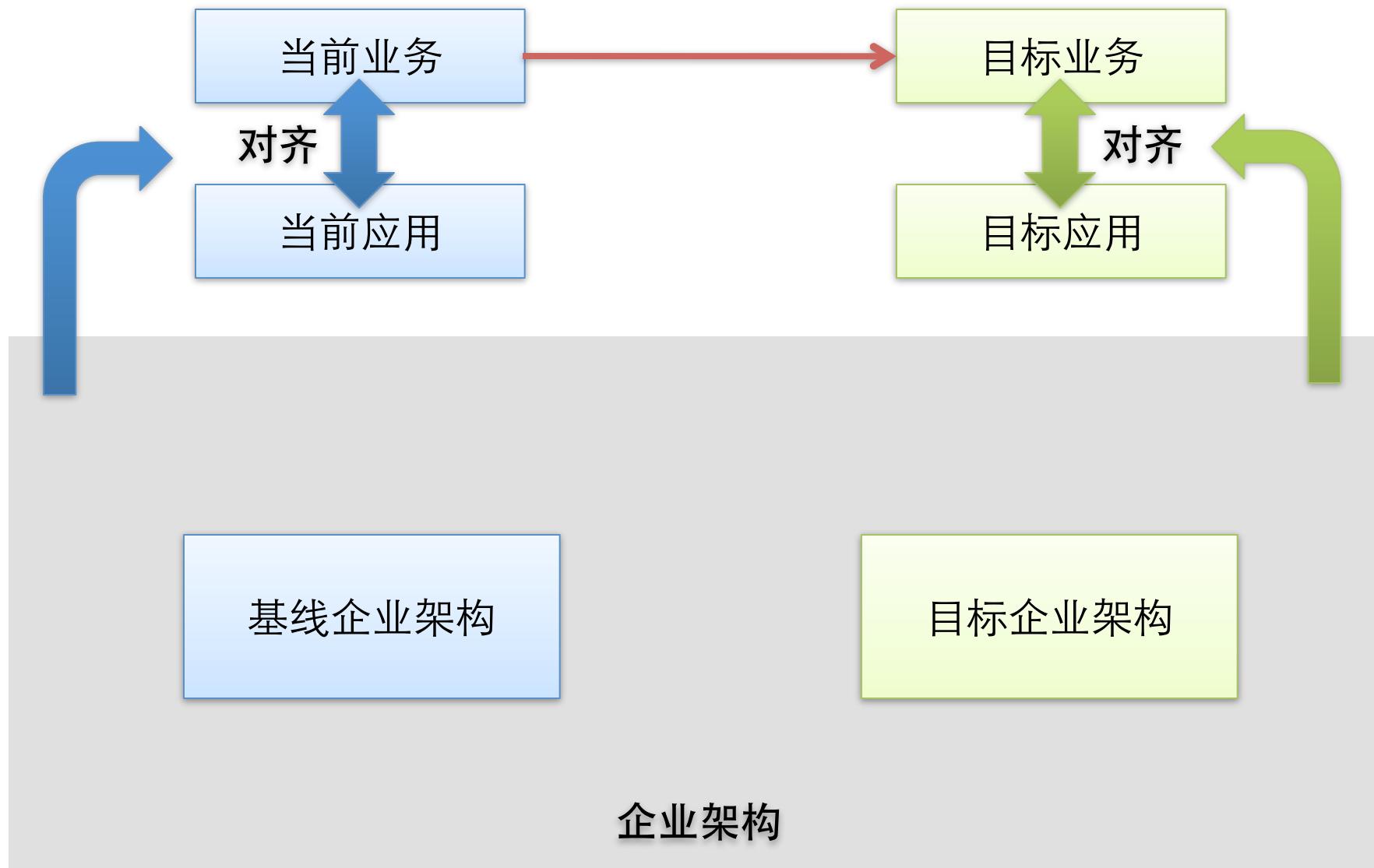
基线企业架构

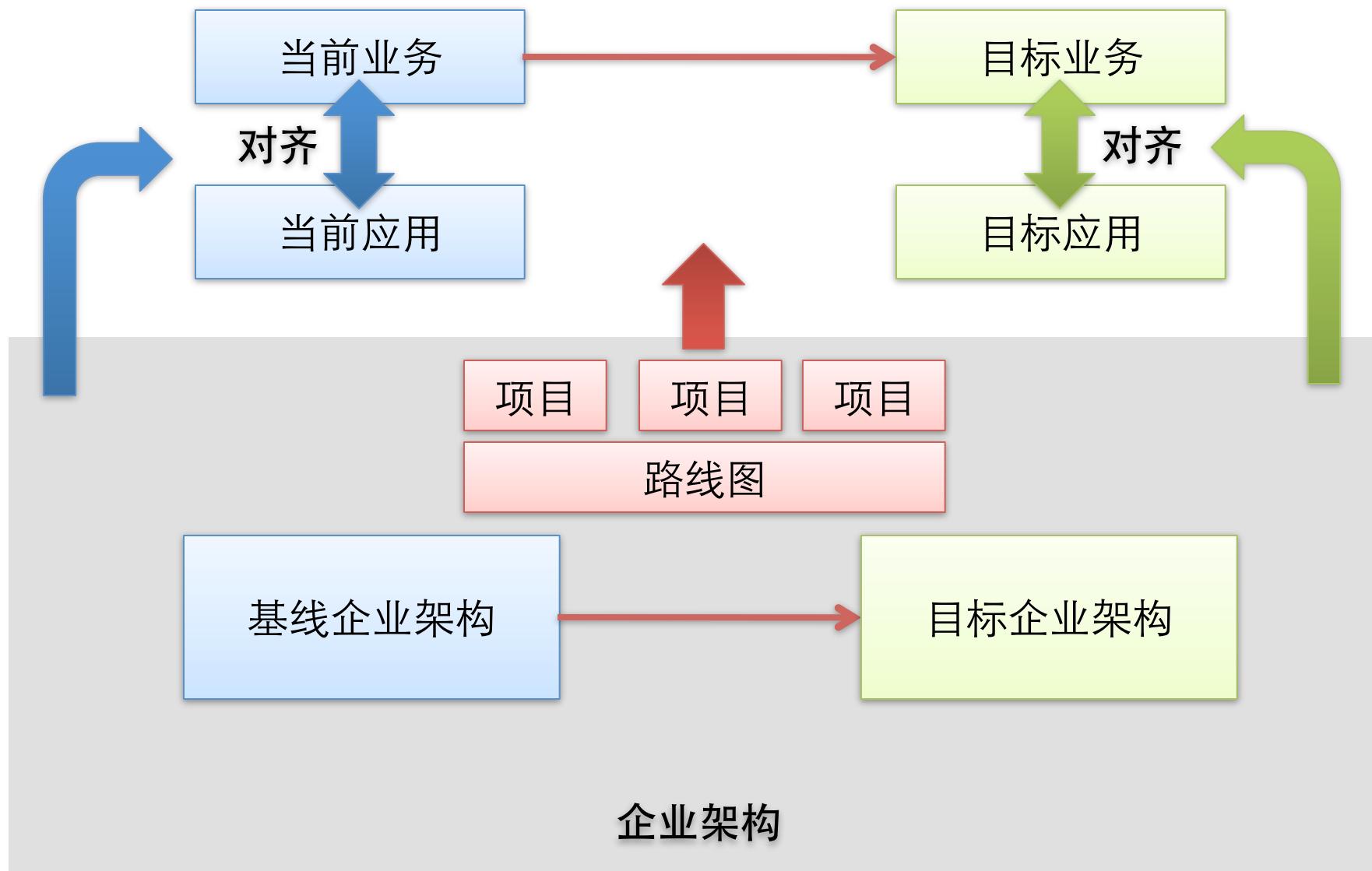
企业架构

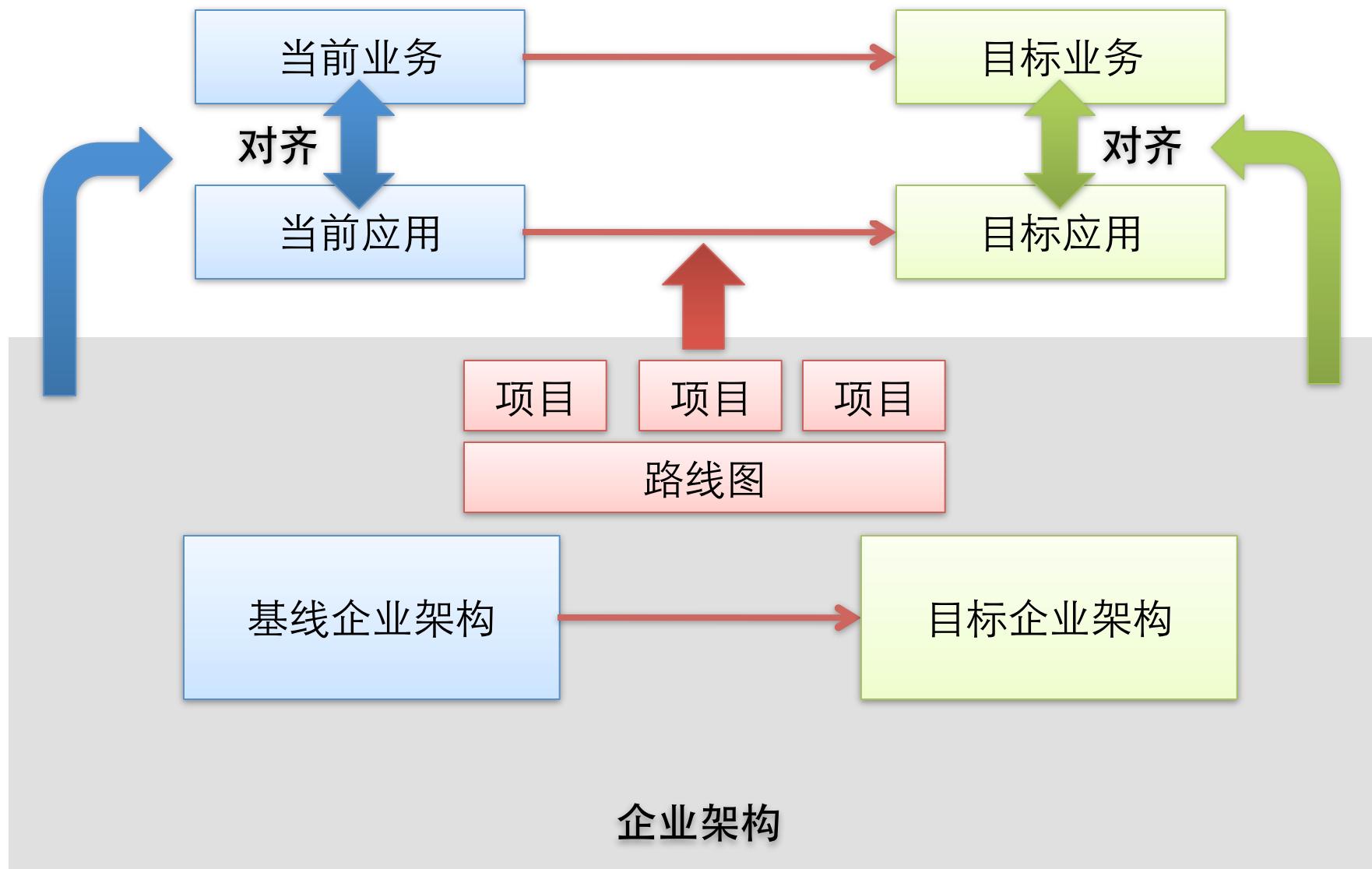


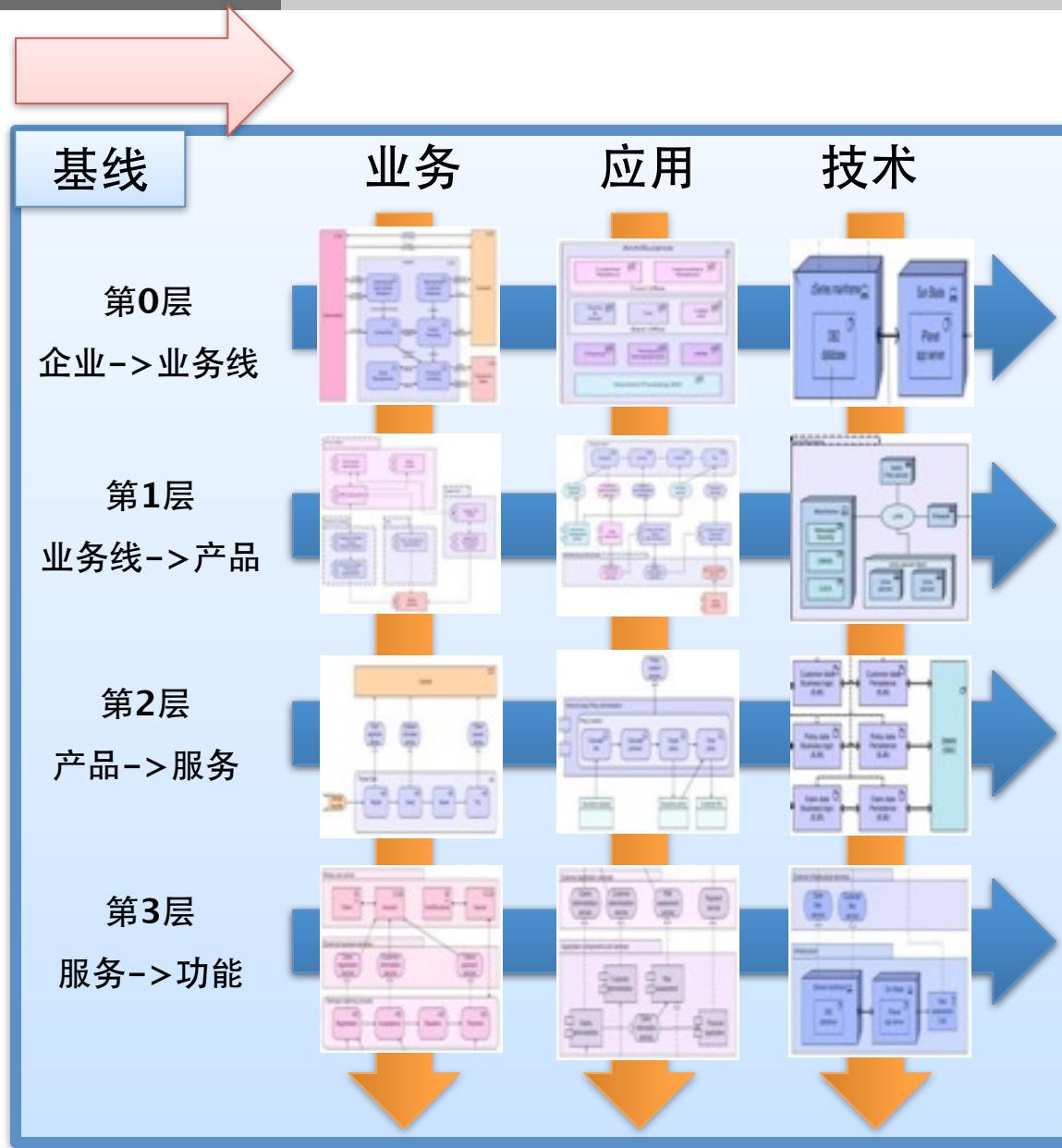
基线企业架构

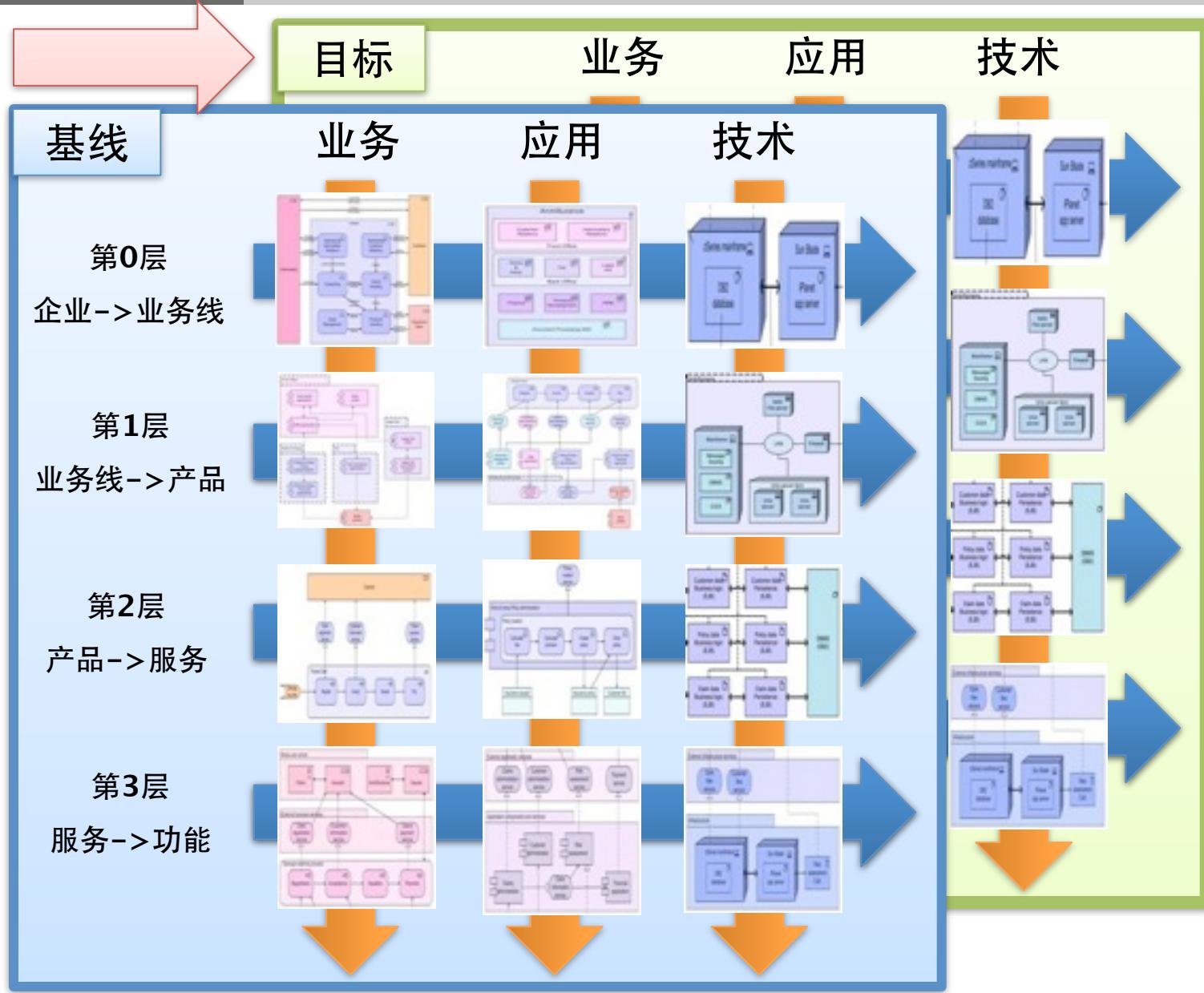
企业架构

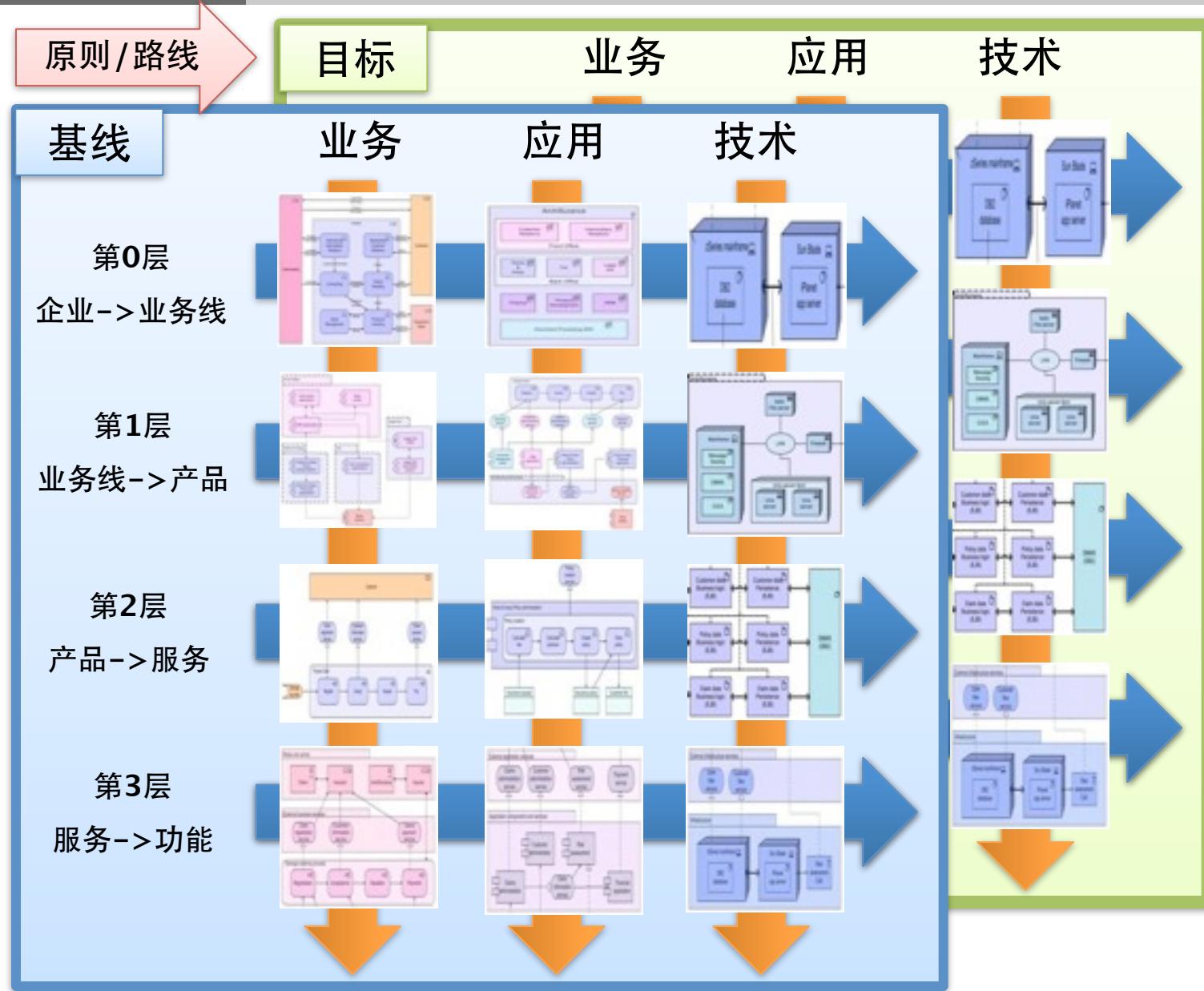


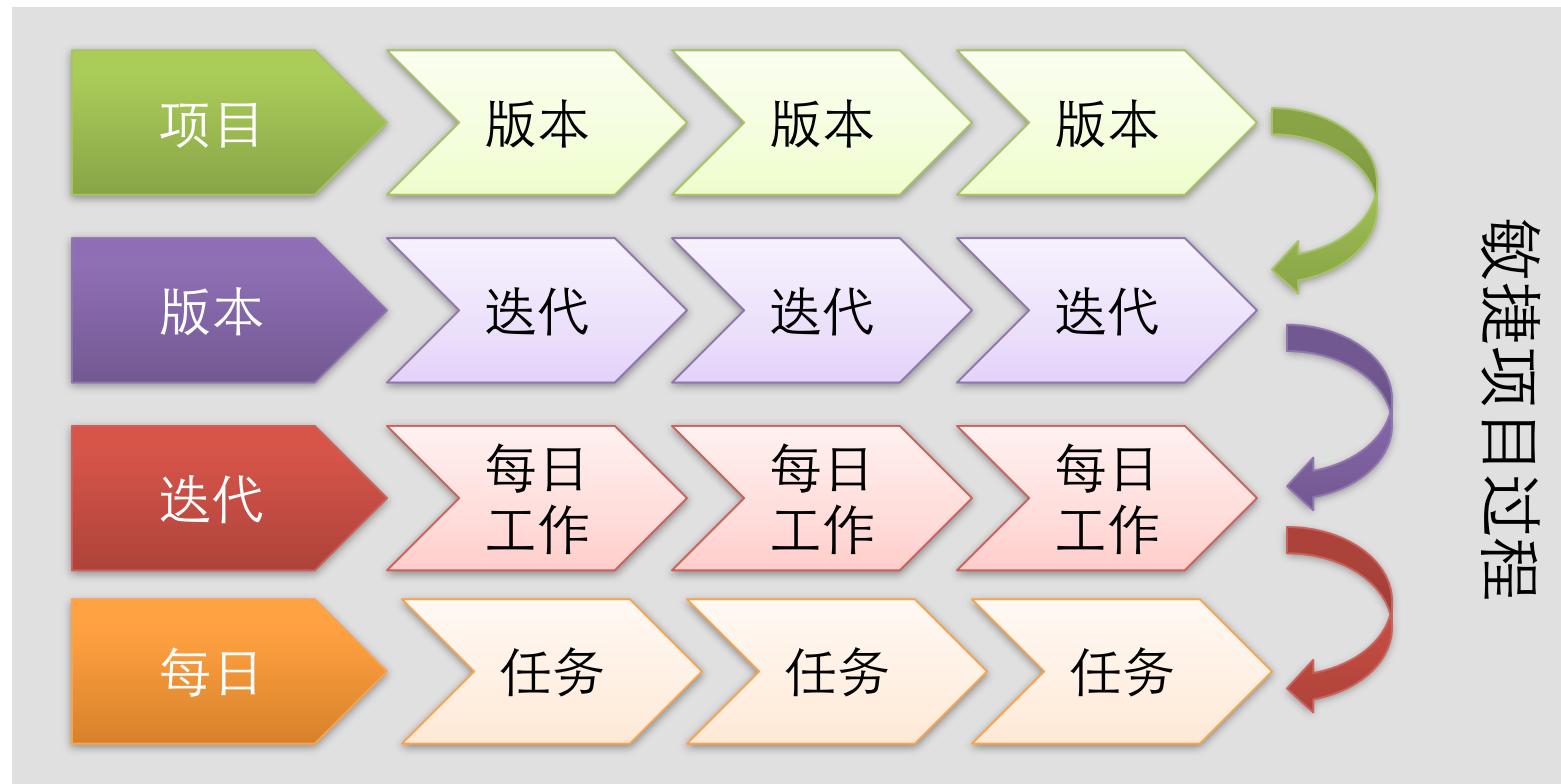


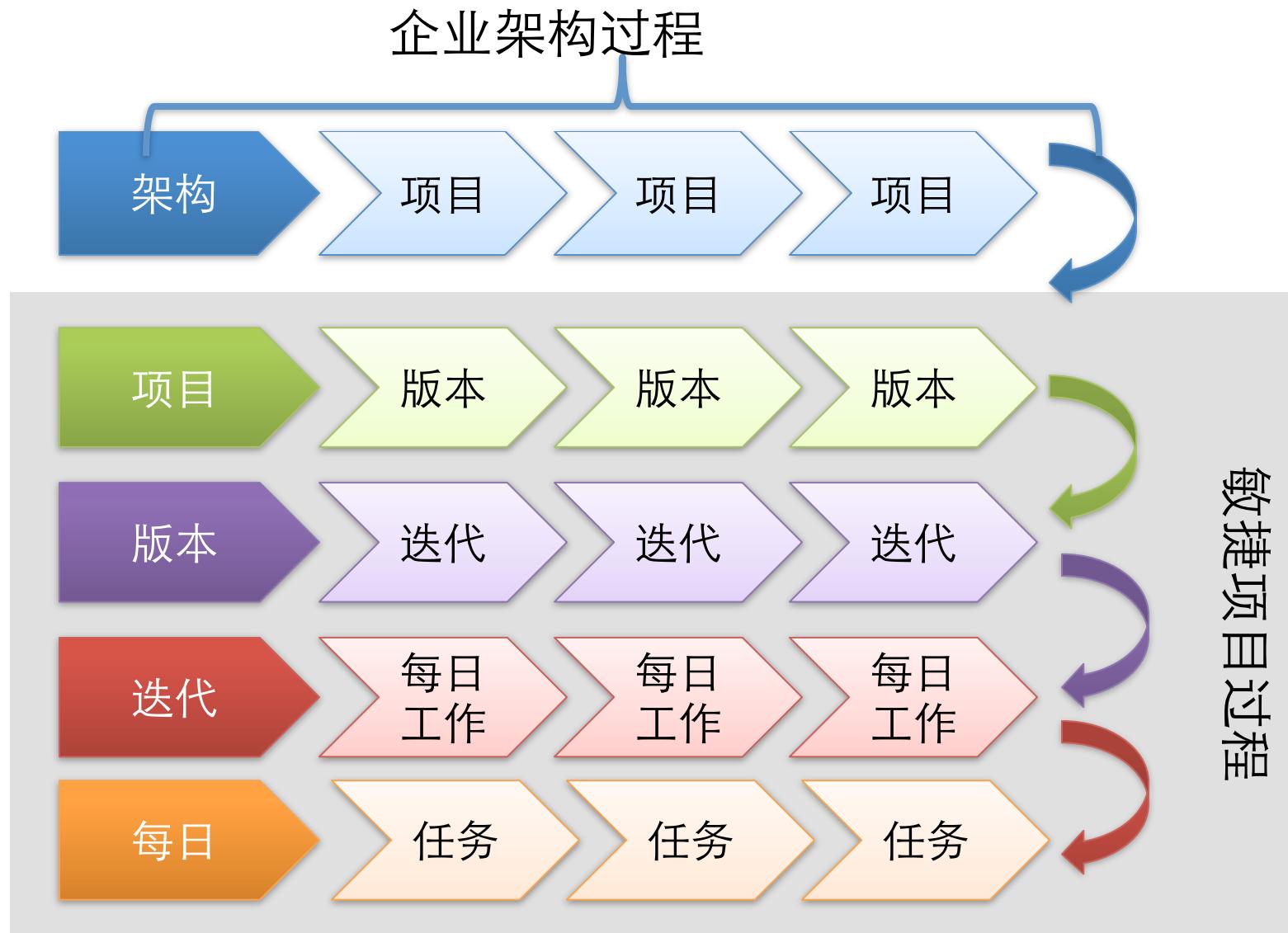


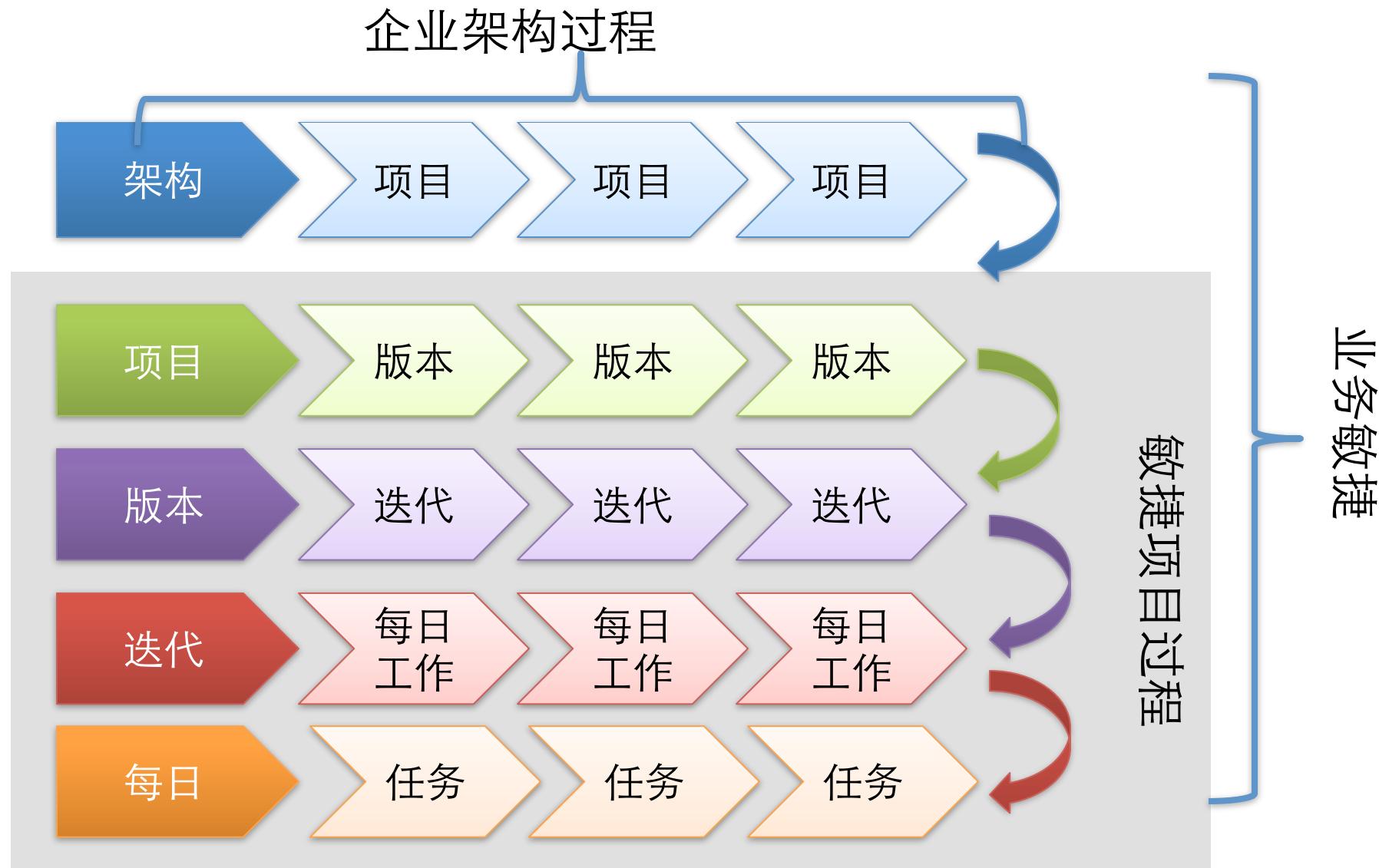




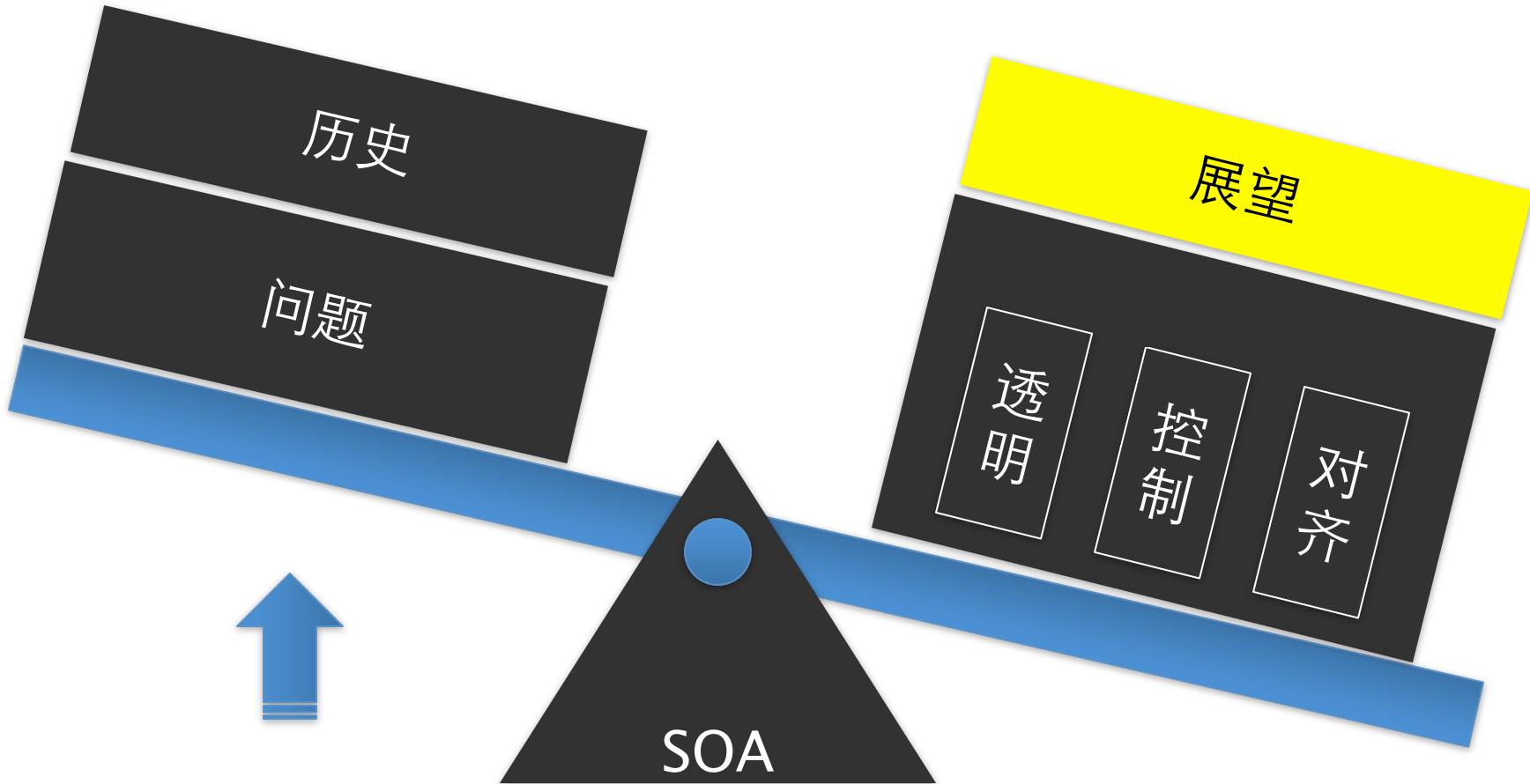


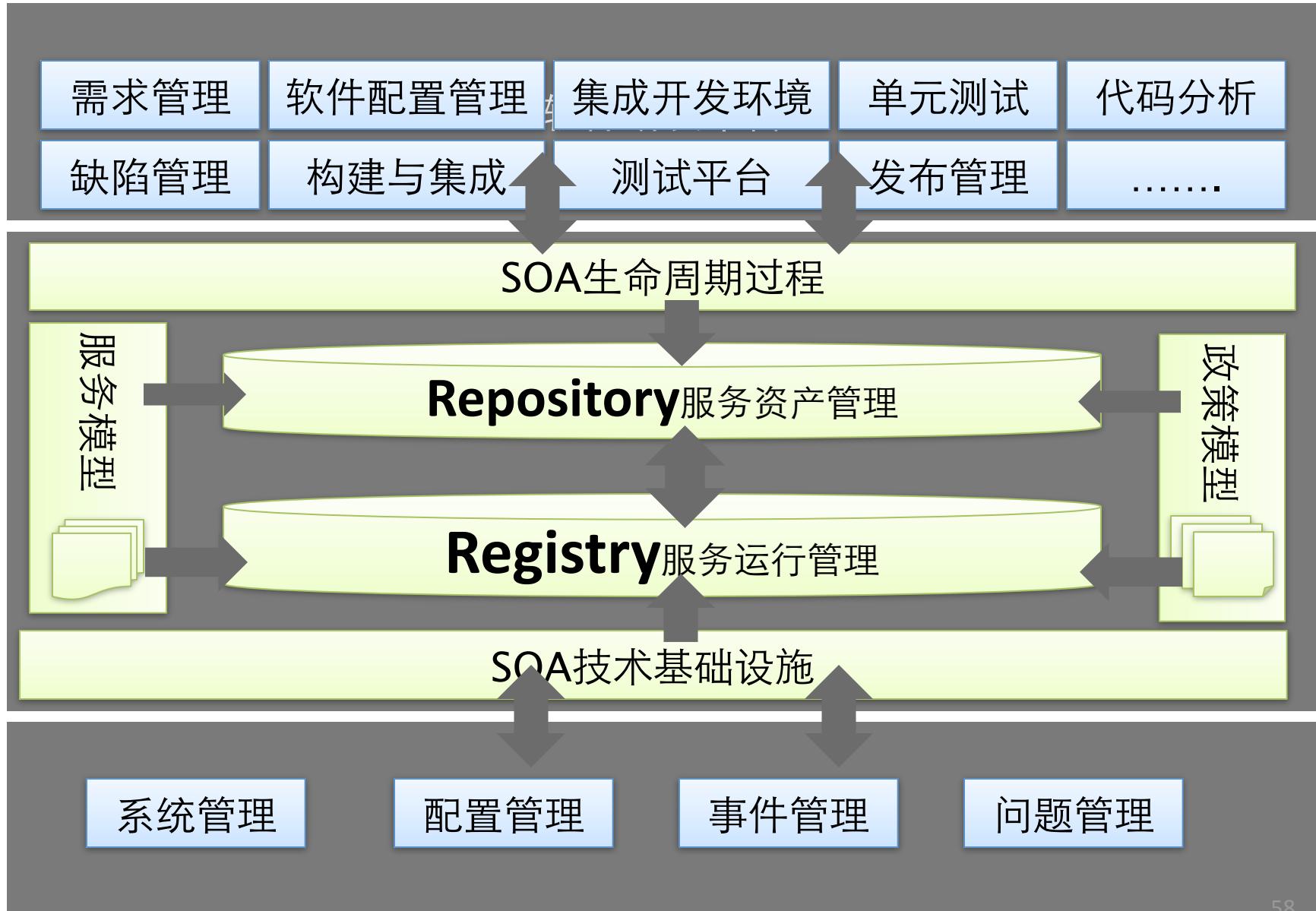






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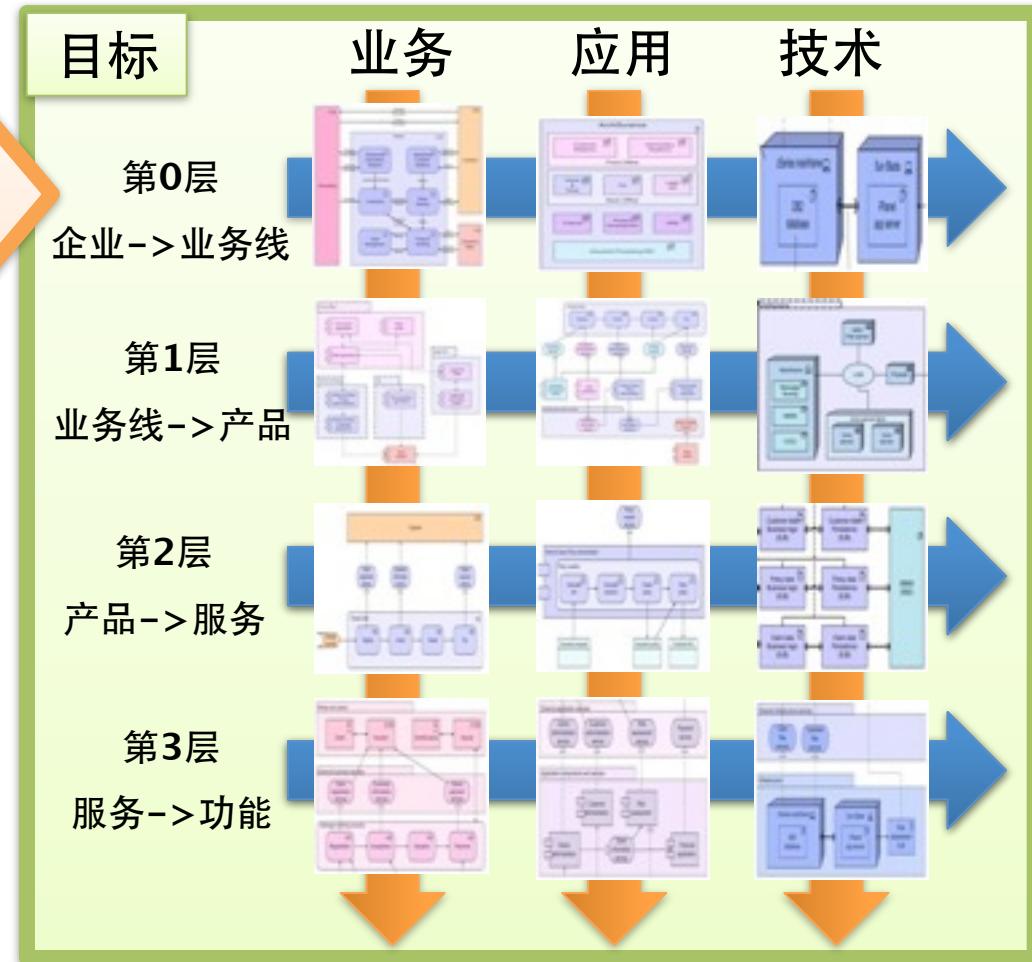
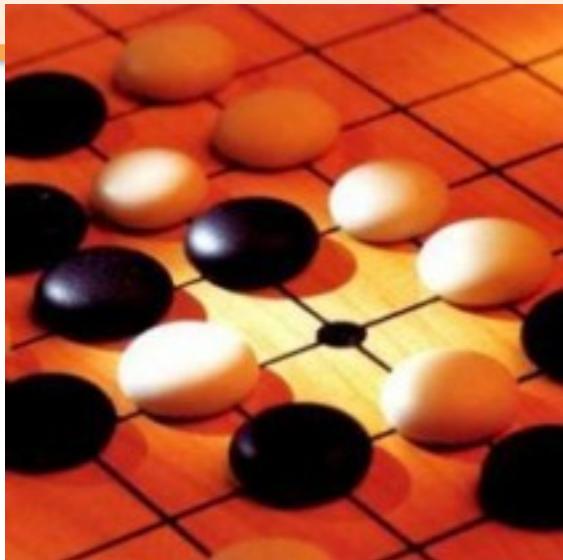


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在治理中树人



企业战略



致谢



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